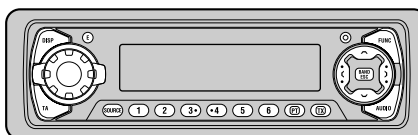


Service Manual

Pioneer

DEH-P7100R/X1N/EW



ORDER NO.
CRT2475

MULTI-CD/DAB CONTROL HIGH POWER CD PLAYER WITH RDS TUNER

DEH-P7100R

DEH-P6100R

X1N/EW

X1N/EW

● This service manual should be used together with the following manual(s):

Model No.	Order No.	Mech. Module	Remarks
CX-958	CRT2423	S8.1	CD Mech. Module:Circuit Description, Mech.Description, Disassembly

CONTENTS

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PIONEER CORPORATION 4-1, Meguro 1-Chome, Meguro-ku, Tokyo 153-8654, Japan
PIONEER ELECTRONICS SERVICE INC. P.O.Box 1760, Long Beach, CA 90801-1760 U.S.A.
PIONEER EUROPE N.V. Haven 1087 Keetberglaan 1, 9120 Melsele, Belgium
PIONEER ELECTRONICS ASIACENTRE PTE.LTD. 253 Alexandra Road, #04-01, Singapore 159936

● CD Player Service Precautions

1. For pickup unit(CXX1285) handling, please refer to "Disassembly"(see page 59).
During replacement, handling precautions shall be taken to prevent an electrostatic discharge(protection by a short pin).
2. During disassembly, be sure to turn the power off since an internal IC might be destroyed when a connector is plugged or unplugged.
3. Please checking the grating after changing the service pickup unit(see page 52).

1. SAFETY INFORMATION

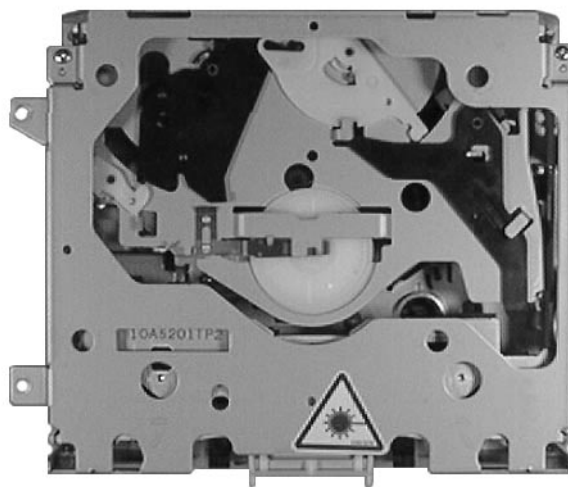
This service manual is intended for qualified service technicians; it is not meant for the casual do-it-yourselfer. Qualified technicians have the necessary test equipment and tools, and have been trained to properly and safely repair complex products such as those covered by this manual. Improperly performed repairs can adversely affect the safety and reliability of the product and may void the warranty. If you are not qualified to perform the repair of this product properly and safely; you should not risk trying to do so and refer the repair to a qualified service technician.

1. Safety Precautions for those who Service this Unit.

- When checking or adjusting the emitting power of the laser diode exercise caution in order to get safe, reliable results.

Caution:

1. During repair or tests, minimum distance of 13cm from the focus lens must be kept.
 2. During repair or tests, do not view laser beam for 10 seconds or longer.
2. A "CLASS 1 LASER PRODUCT" label is affixed to the bottom of the player.
 3. The triangular label is attached to the mechanism unit frame.



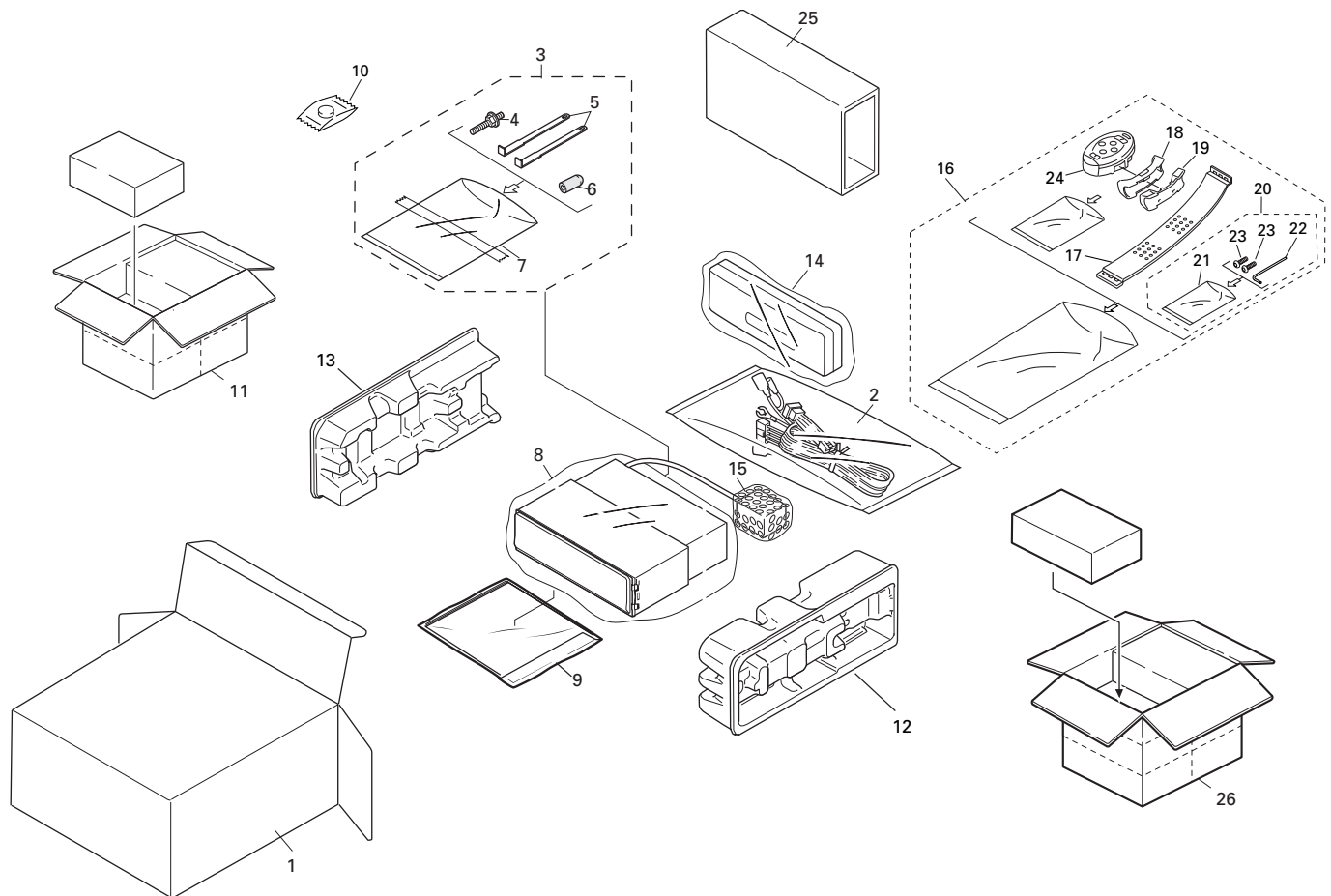
4. Specifications of Laser Diode

Specifications of laser radiation fields to which human access is possible during service.

Wavelength = 800 nanometers

2. EXPLODED VIEWS AND PARTS LIST

2.1 PACKING



NOTE:

- Parts marked by “*” are generally unavailable because they are not in our Master Spare Parts List.
- Screws adjacent to ∇ mark on the product are used for disassembly.

● PACKING SECTION PARTS LIST

Mark	No.	Description	Part No.	Mark	No.	Description	Part No.
	1	Carton(P7100R)	CHG4005	*	9-6	Passport	CRY1013
		Carton(P6100R)	CHG4007	*	9-7	Warranty Card	CRY1157
	2	Cord Assy	CDE6240	*	9-8	Warranty Card	CRP1207
*	3	Accessory Assy	CEA2397		10	Battery(P7100R)	CEX1030
	4	Screw	CBA1002		11	Contain Box(P7100R)	CHL4005
	5	Handle	CNC5395		12	Protector	CHP2251
	6	Bush	CNV3930		13	Protector	CHP2252
*	7	Polyethylene Bag	E36-615		14	Case Assy	CXB3520
	8	Polyethylene Bag	CEG-162		15	Air Cushioned Bag(P7100R)	CEG1192
	9-1	Polyethylene Bag	CEG1116		16	Remote Control Assy(P7100R)	CXB3488
	9-2	Owner's Manual	CRD3158		17	Belt(P7100R)	CZN6416
	9-3	Owner's Manual	CRD3159		18	Holder Assy(P7100R)	CZX3172
	9-4	Owner's Manual	CRD3160		19	Holder Assy(P7100R)	CZX3173
	9-5	Installation Manual(P7100R)	CRD3161		20	Screw Assy(P7100R)	CZE3169
		Installation Manual(P6100R)	CRD3171	*	21	Polyethylene Bag(P7100R)	CEG-127
				*	22	Hexagonal Wrench(P7100R)	CZE3176
				*	23	Screw(P7100R)	RMZ30H060FBK
					24	Remote Control Assy(P7100R)	CZX3231
					25	Inner Box	CHW1754
					26	Contain Box(P6100R)	CHL4007

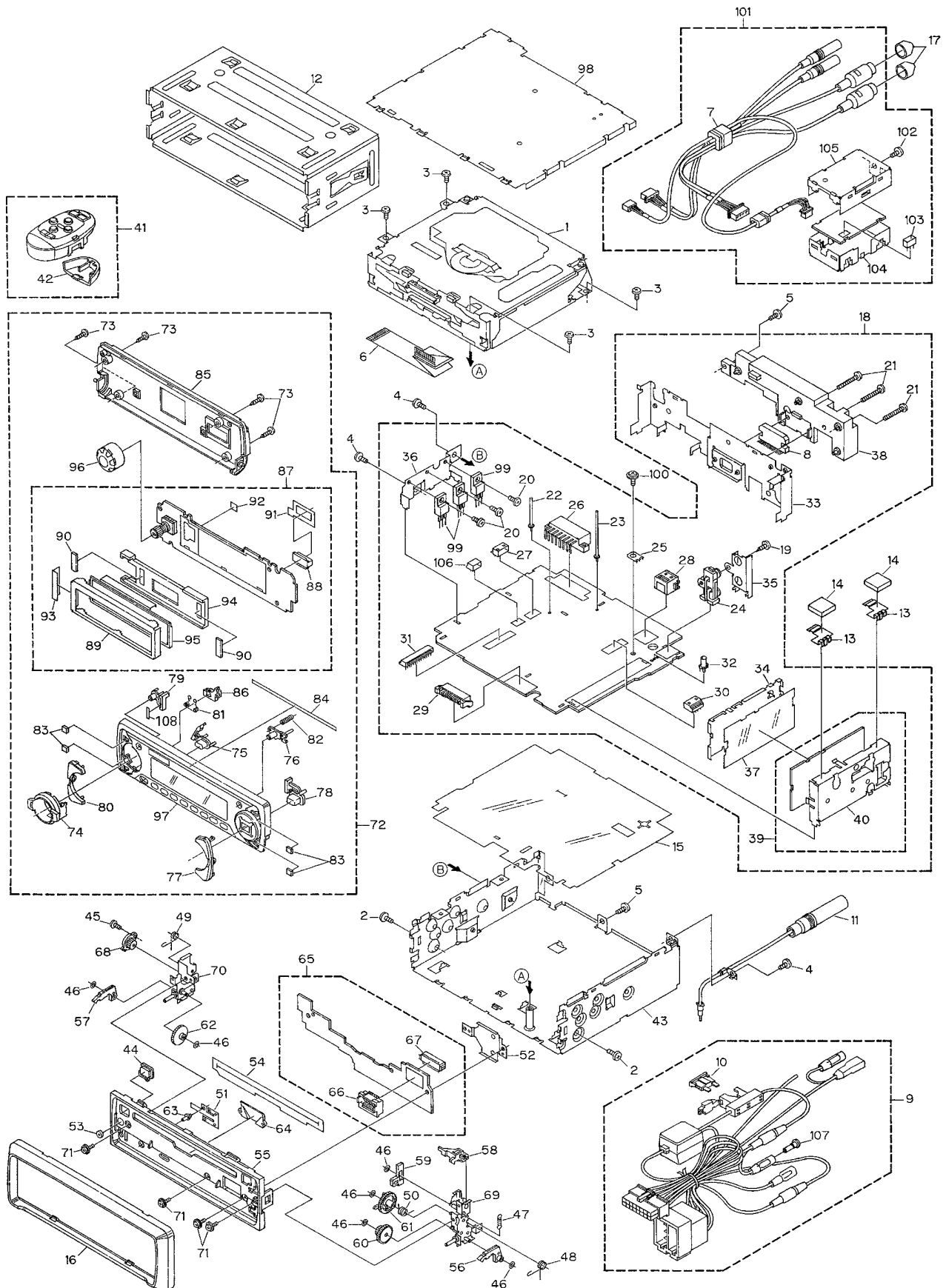
● Owner's Manual, Installation Manual

Model	Part No.	Language
DEH-P7100R/X1N/EW	CRD3158	English, Spanish
	CRD3159	German, French
	CRD3160	Italian, Dutch
	CRD3161	English, Spanish, German, French, Italian, Dutch

● Owner's Manual, Installation Manual

Model	Part No.	Language
DEH-P6100R/X1N/EW	CRD3158	English, Spanish
	CRD3159	German, French
	CRD3160	Italian, Dutch
	CRD3171	English, Spanish, German, French, Italian, Dutch

2.2 EXTERIOR



(1) EXTERIOR SECTION PARTS LIST

Mark No.	Description	Part No.	Mark No.	Description	Part No.
1	CD Mechanism Module(S8.1)	CXK5202	51	Spring	CBL1492
2	Screw	BMZ30P040FZK	52	Holder	CNC8616
3	Screw	BSZ26P060FMC	53	Cushion	CNM5486
4	Screw	BSZ30P060FMC	54	Cover	CNM6854
5	Screw	BSZ30P100FMC	55	Panel	CNS5791
6	Cable	CDE6164	56	Arm	CNV5991
7	Cord Assy	See Contrast table(2)	57	Arm	CNV5992
8	IC(IC301)	PAL005A	58	Arm	CNV5993
9	Cord Assy	CDE6240	59	Lever	CNV5994
10	Fuse(10A)	CEK1136	60	Gear	CNV5995
11	Antenna Cable	CDH1266	61	Gear	CNV5996
12	Holder	CNC6798	62	Gear	CNV5997
13	Holder	CNC8357	63	Pin	CNV6027
14	Spacer	CNM6482	64	Lighting Conductor	CNV6069
15	Insulator	CNM6606	65	Panel PCB Unit	CWM7157
16	Panel	CNS5992	66	Socket(CN902)	CKS3550
17	Cap	See Contrast table(2)	67	Connector(CN903)	CKS4206
18	Tuner Amp Unit	See Contrast table(2)	68	Damper Unit	CXB5070
19	Screw	BPZ26P060FMC	69	Holder Unit	CXB5736
20	Screw	BSZ26P060FMC	70	Holder Unit	CXB5737
21	Screw	BSZ26P160FMC	71	Screw	IMS20P045FZK
22	Clamper	See Contrast table(2)	72	Detach Grille Assy	See Contrast table(2)
23	Clamper	See Contrast table(2)	73	Screw	BPZ20P100FZK
24	Pin Jack(CN351)	CKB1028	74	Knob	CAA1525
25	Terminal(CN402)	CKF1059	75	Button(SOURCE)	CAC6331
26	Plug(CN901)	CKM1294	76	Button(OPEN)	CAC6333
27	Plug(CN451)	See Contrast table(2)	77	Button(F,A)	CAC6337
28	Connector(CN101)	CKS3408	78	Button(BAND)	CAC6442
29	Plug(CN801)	CKS3537	79	Button(E)	CAC6464
30	Connector(CN361)	See Contrast table(2)	80	Button(DISP)	CAC6339
31	Connector(CN651)	CKS3842	81	Spring	CBH2316
32	Pin Jack(CN401)	CKX1046	82	Spring	CBH2320
33	Panel	See Contrast table(2)	83	Cushion	CNM6542
34	Holder	CNC7533	84	Spacer	CNM6871
35	Holder	CNC8298	85	Cover	CNS5737
36	Holder	CNC8615	86	Holder	CNV6177
37	Insulator	CNM5967	87	Keyboard Unit	CWM7269
38	Heat Sink	CNR1550	88	Connector(CN1901)	CKS4205
39	FM/AM Tuner Unit	CWE1500	89	Holder	CNC8698
40	Holder	CNC7532	90	Cushion	CNM6633
41	Remote Control Assy	See Contrast table(2)	91	Spacer	CNM6710
42	Battery Cover	See Contrast table(2)	92	Spacer	CNM6711
43	Chassis Unit	See Contrast table(2)	93	Sheet	CNM6746
44	Button(EJECT)	CAC6428	94	Holder	CNV6105
45	Screw(M2x2)	CBA1176	95	OEL Unit	MXR8004
46	Washer	CBF1038	96	Knob Unit	CXB5350
47	Spring	CBH2310	97	Grille Unit	See Contrast table(2)
48	Spring	CBH2312	98	Case Unit	CXB5788
49	Spring	CBH2313	99	Transistor(Q831,Q921,Q998)	2SD2396
50	Spring	CBH2393	100	Screw	ISS26P055FUC

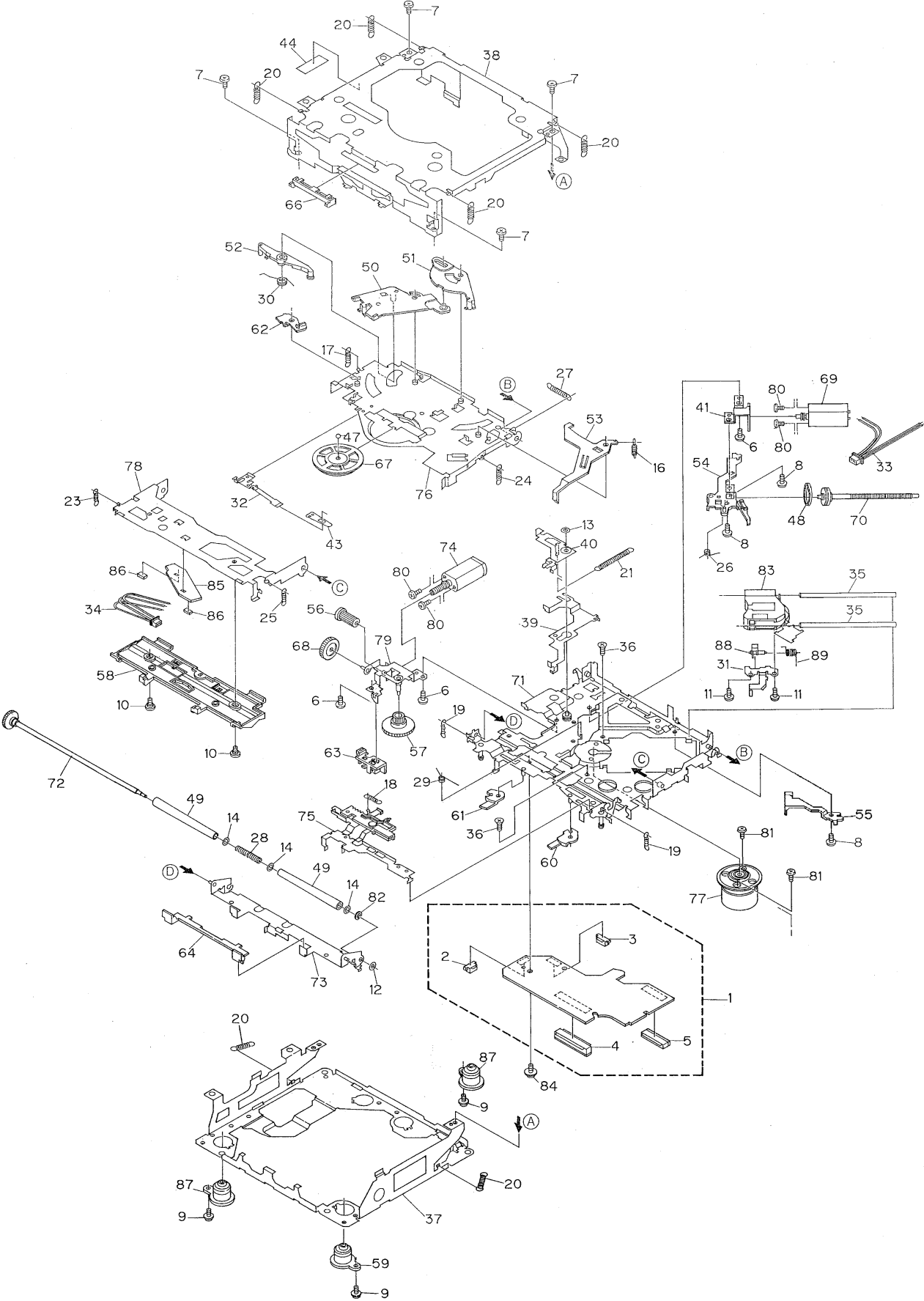
Mark No.	Description	Part No.
101	ASL Unit	See Contrast table(2)
102	Screw	See Contrast table(2)
103	Plug(CN4501)	See Contrast table(2)
104	Case	See Contrast table(2)
105	Case	See Contrast table(2)
106	Plug(CN141)	See Contrast table(2)
107	Cap	CKX-003
108	Double Sided Tape	CNM6811

(2) CONTRAST TABLE

DEH-P7100R/X1N/EW and DEH-P6100R/X1N/EW are constructed the same except for the following:

Mark No.	Symbol and Description	Part No.	
		DEH-P7100R/X1N/EW	DEH-P6100R/X1N/EW
7	Cord Assy	CDE6333	Not used
17	Cap	CNV2680	Not used
18	Tuner Amp Unit	CWM6932	CWM6937
22	Clamper	CEF1007	Not used
23	Clamper	CEF1009	Not used
*	27 Plug(CN451)	CKS1052	Not used
	30 Connector(CN361)	CKS3598	Not used
	33 Panel	CNB2376	CNB2477
	41 Remote Control Assy	CZX3231	Not used
	42 Cover	CZN6410	Not used
43	Chassis Unit	CXB5505	CXB5506
72	Detach Grille Assy	CXB5230	CXB5235
97	Grille Unit	CXB5439	CXB5444
101	ASL Unit	CWX2424	Not used
102	Screw	BSZ30P055FMC	Not used
103	Plug(CN4501)	CKS-784	Not used
104	Case	CNB2299	Not used
105	Case	CNB2300	Not used
106	Plug(CN141)	CKS-766	Not used

2.3 CD MECHANISM MODULE

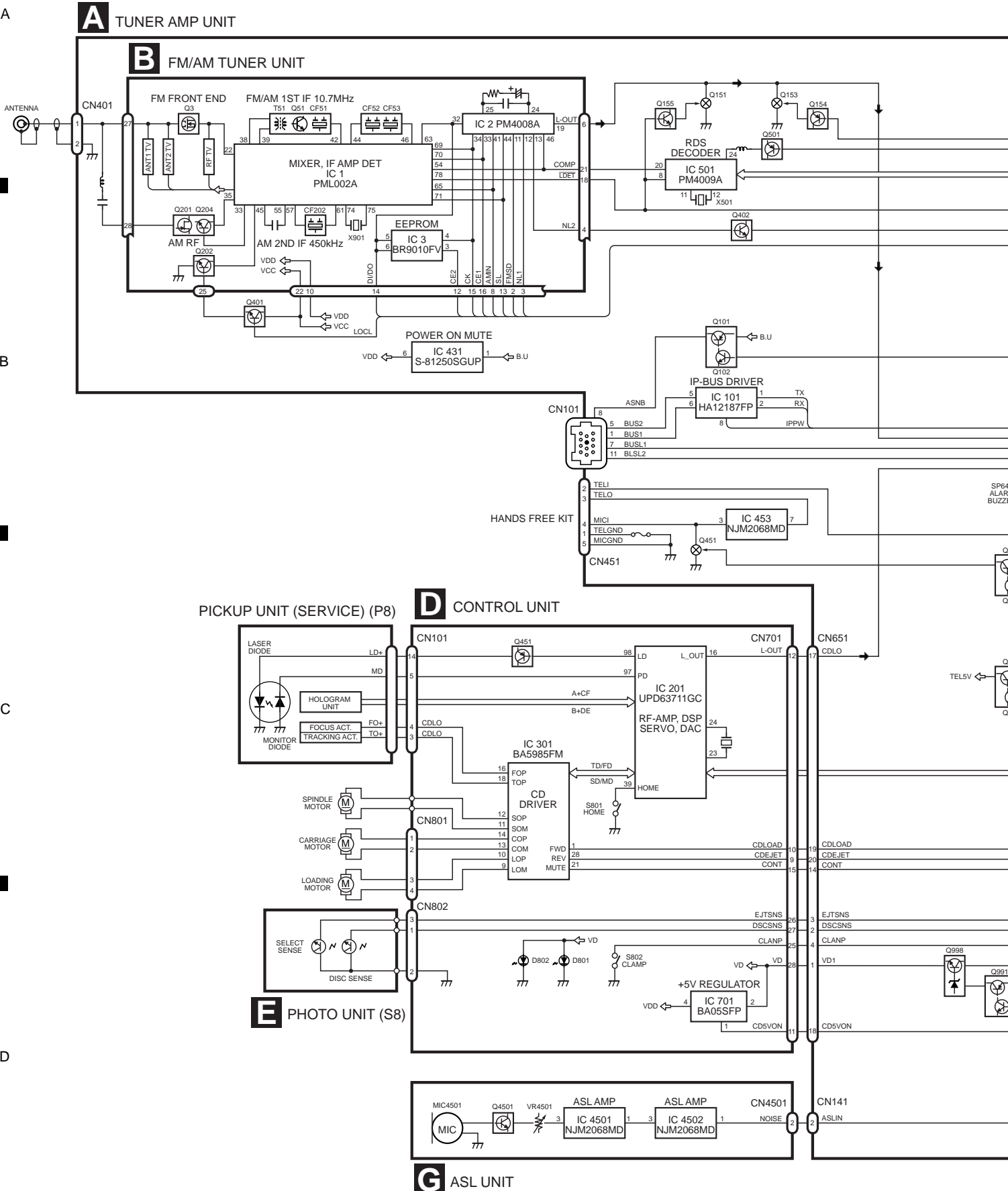


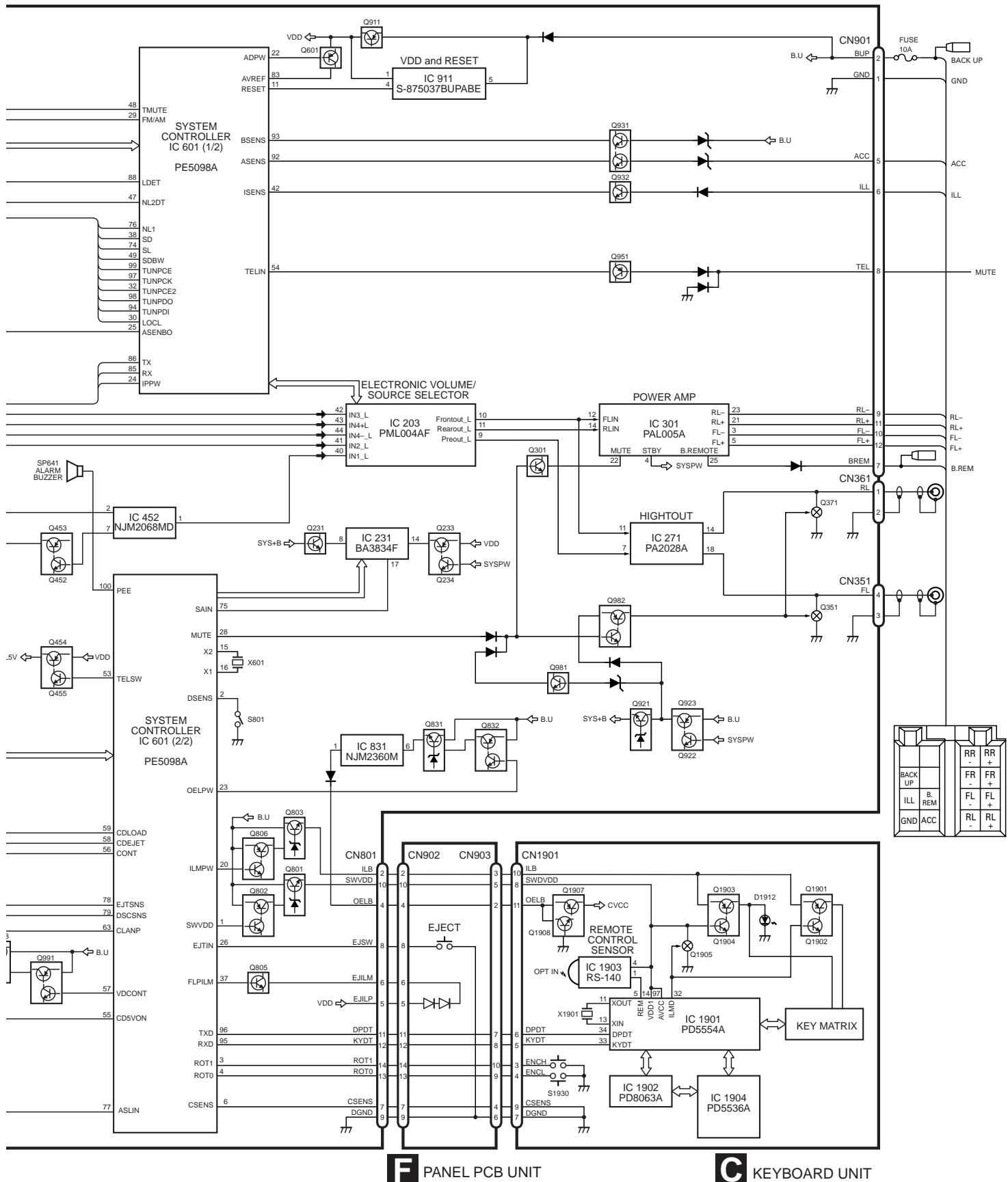
● CD MECHANISM MODULE SECTION PARTS LIST

Mark No.	Description	Part No.	Mark No.	Description	Part No.
1	Control Unit	CWX2419	46	*****	
2	Connector(CN802)	CKS2192	47	Ball	CNR1189
3	Connector(CN801)	CKS2193	48	Belt	CNT1086
4	Connector(CN701)	CKS2777	49	Roller	CNV4509
5	Connector(CN101)	CKS3486	50	Arm	CNV6037
6	Screw	BMZ20P030FMC	51	Arm	CNV5247
7	Screw	BSZ20P040FMC	52	Arm	CNV5248
8	Screw(M2x3)	CBA1077	53	Arm	CNV5249
9	Screw(M2x5)	EBA1028	54	Guide	CNV5254
10	Screw	CBA1243	55	Guide	CNV5255
11	Screw(M2x4)	CBA1362	56	Gear	CNV5257
12	Washer	CBF1037	57	Gear	CNV5256
13	Washer	CBF1038	58	Guide	CNV6272
14	Washer	CBF1060	59	Damper	CNV6010
15	*****		60	Arm	CNV6096
16	Spring	CBH2079	61	Arm	CNV6031
17	Spring	CBH2117	62	Arm	CNV6211
18	Spring	CBH2314	63	Guide	CNV6012
19	Spring	CBH2110	64	Guide	CNV5510
20	Spring	CBH2282	65	*****	
21	Spring	CBH2318	66	Guide	CNV5751
22	*****		67	Clamper	CNV6013
23	Spring	CBH2324	68	Gear	CNV5813
24	Spring	CBH2118	69	Motor Unit(M1)	CXB2190
25	Spring	CBH2161	70	Screw Unit	CXB5892
26	Spring	CBH2163	71	Chassis Unit	CXB4797
27	Spring	CBH2189	72	Gear Unit	CXB4728
28	Spring	CBH2377	73	Arm Unit	CXB5753
29	Spring	CBH2260	74	Motor Unit(M2)	CXB2195
30	Spring	CBH2262	75	Lever Unit	CXB4730
31	Bracket	CNC8568	76	Arm Unit	CXB4731
32	Spring	CBL1369	77	Motor Unit(M3)	CXB2562
33	Connector	CDE5531	78	Arm Unit	CXB4732
34	Connector	CDE5532	79	Bracket Unit	CXB4795
35	Shaft	CLA3304	80	Screw	JFZ20P025FMC
36	Screw(M2.6x6)	CBA1458	81	Screw	JGZ17P025FZK
37	Frame	CNC8565	82	Washer	YE20FUC
38	Frame	CNC8749	83	Pickup Unit(Service)(P8)	CXX1285
39	Lever	CNC7546	84	Screw	IMS26P030FMC
40	Arm	CNC8663	* 85	PCB	CNX2982
41	Bracket	CNC8567	86	Photo-transistor(Q1, 2)	CPT230SX-TU
42	*****		87	Damper	CNV6011
43	Spacer	CNM3315	88	Rack	CNV6014
44	Sheet	CNM6659	89	Spring	CBH2315
45	*****				

3. BLOCK DIAGRAM AND SCHEMATIC DIAGRAM

3.1 BLOCK DIAGRAM (DEH-P7100R/X1N/EW)



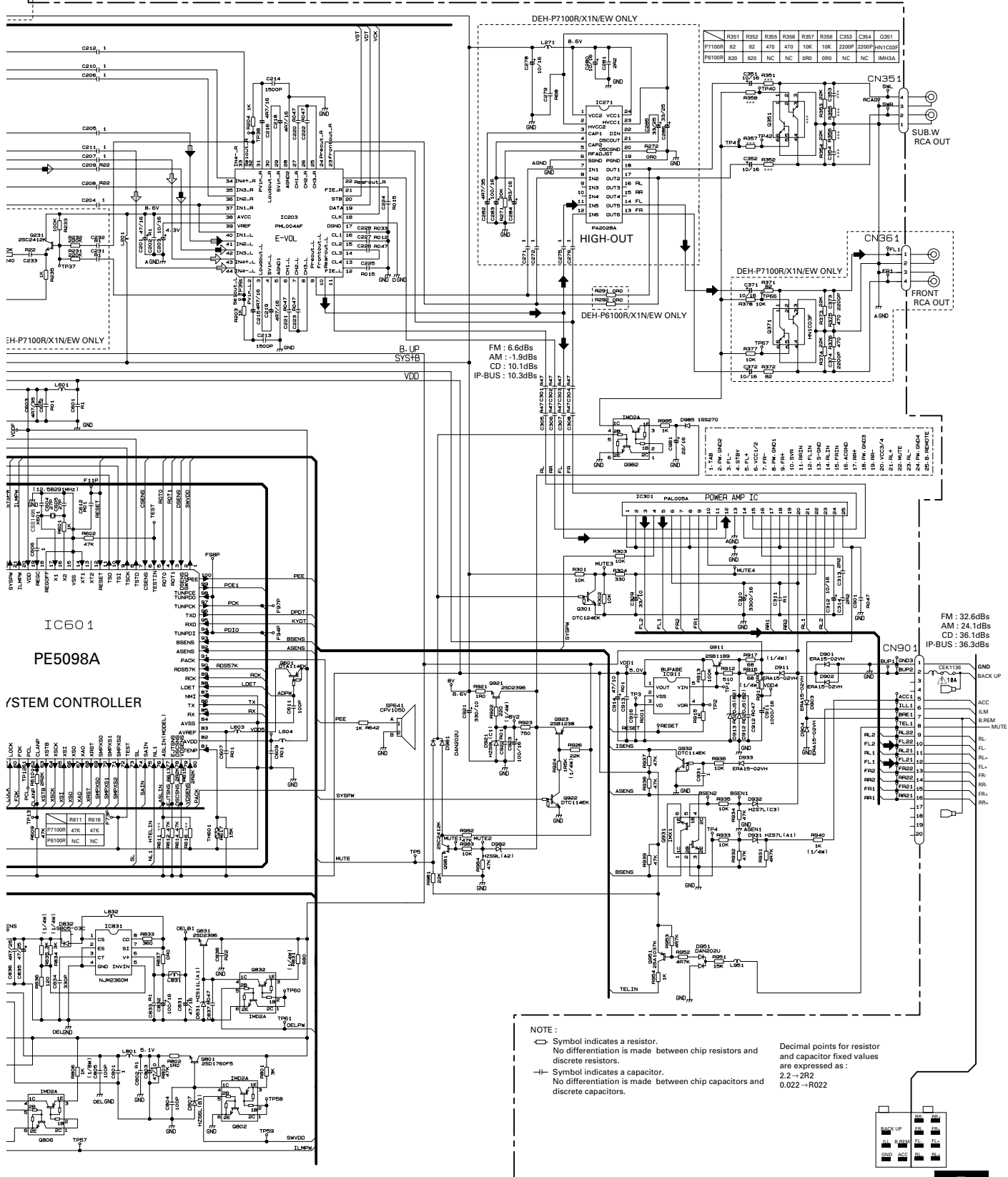


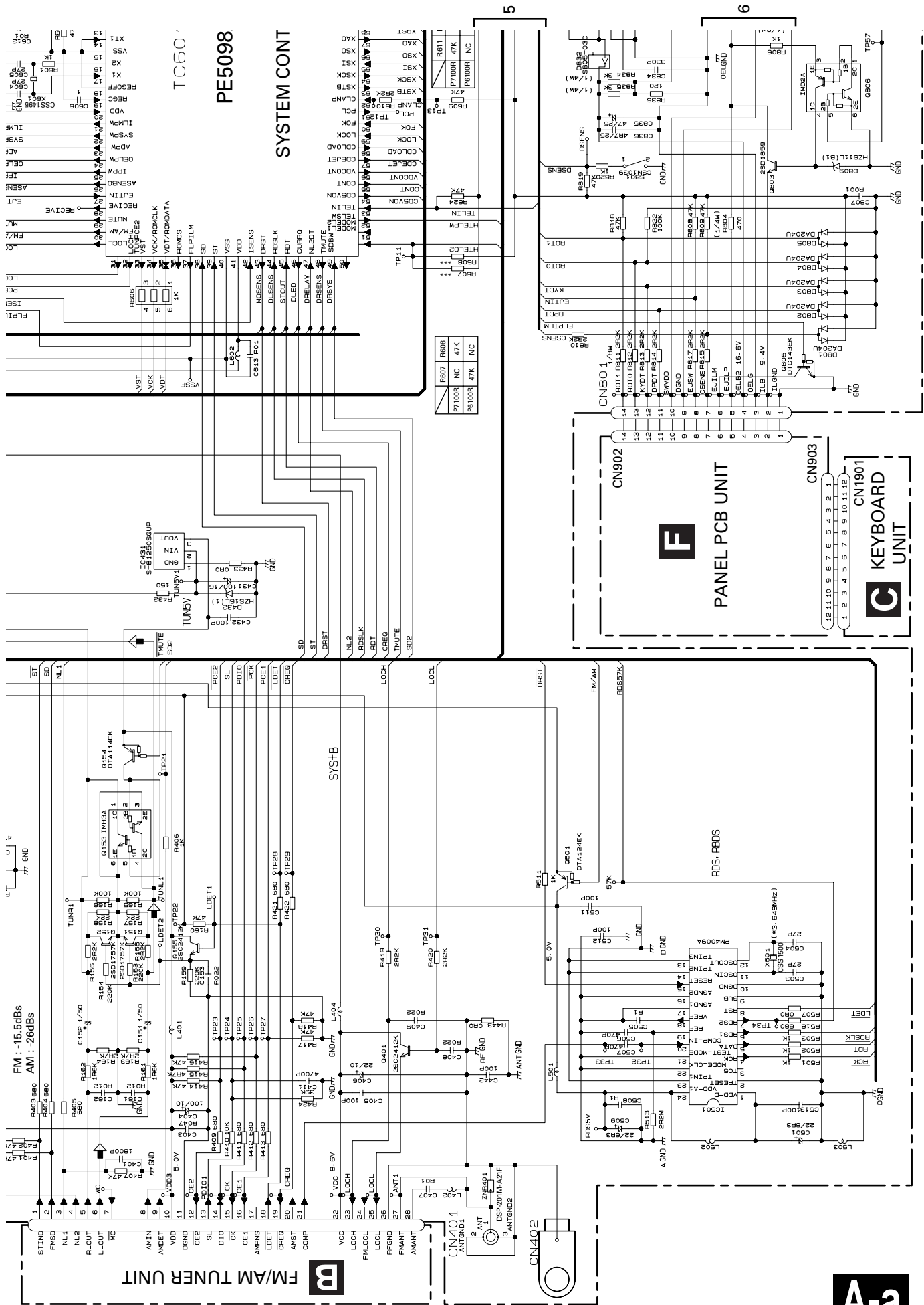
A-b

- TUNER SIGNAL
- IP-BUS SIGNAL
- CD SIGNAL
- CD/TUNER/IP-BUS SIGNAL

The Δ mark found on some component parts indicates the importance of the safety factor of the part. Therefore, when replacing, be sure to use parts of identical designation.

A TUNER AMP UNIT





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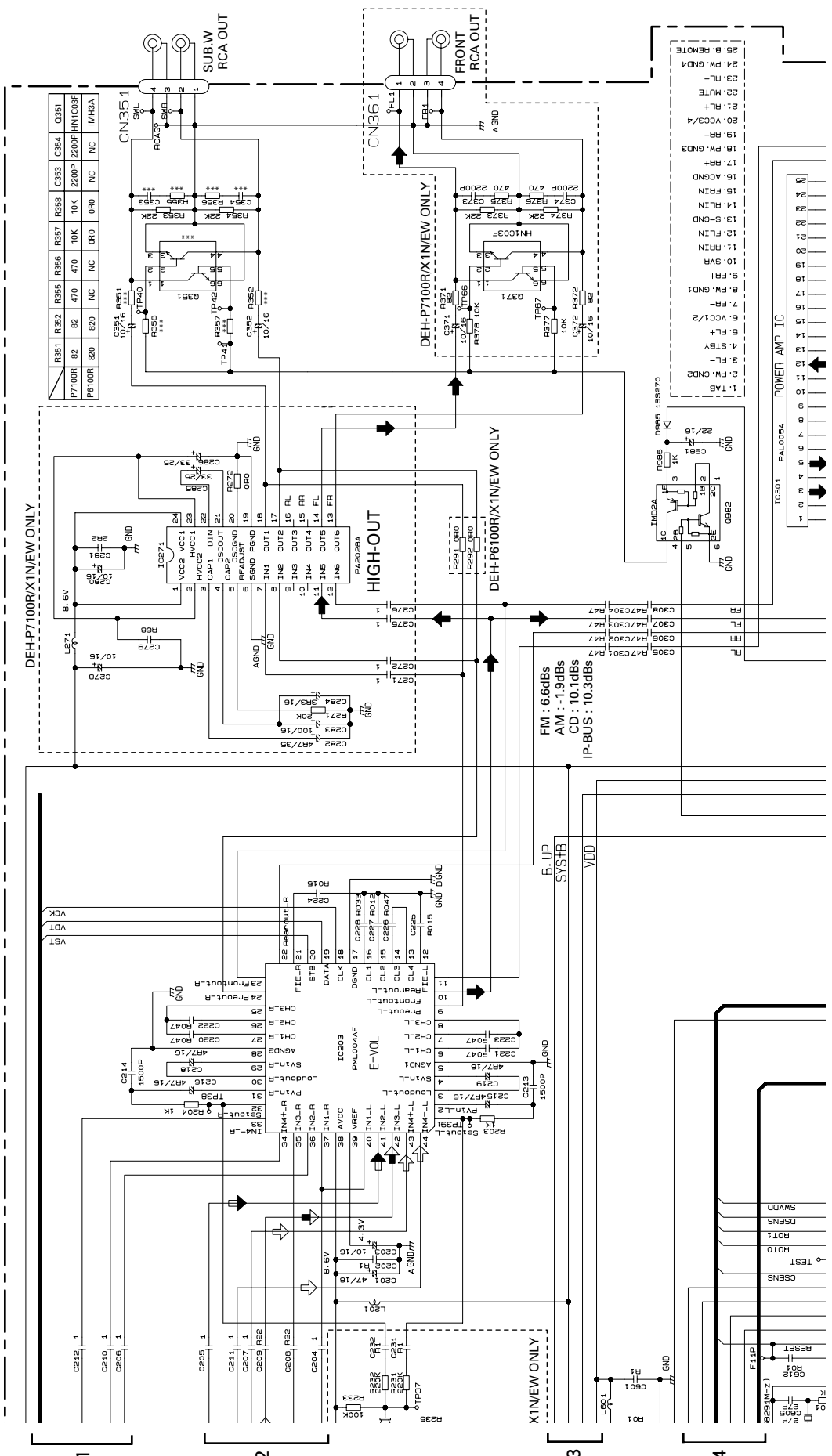
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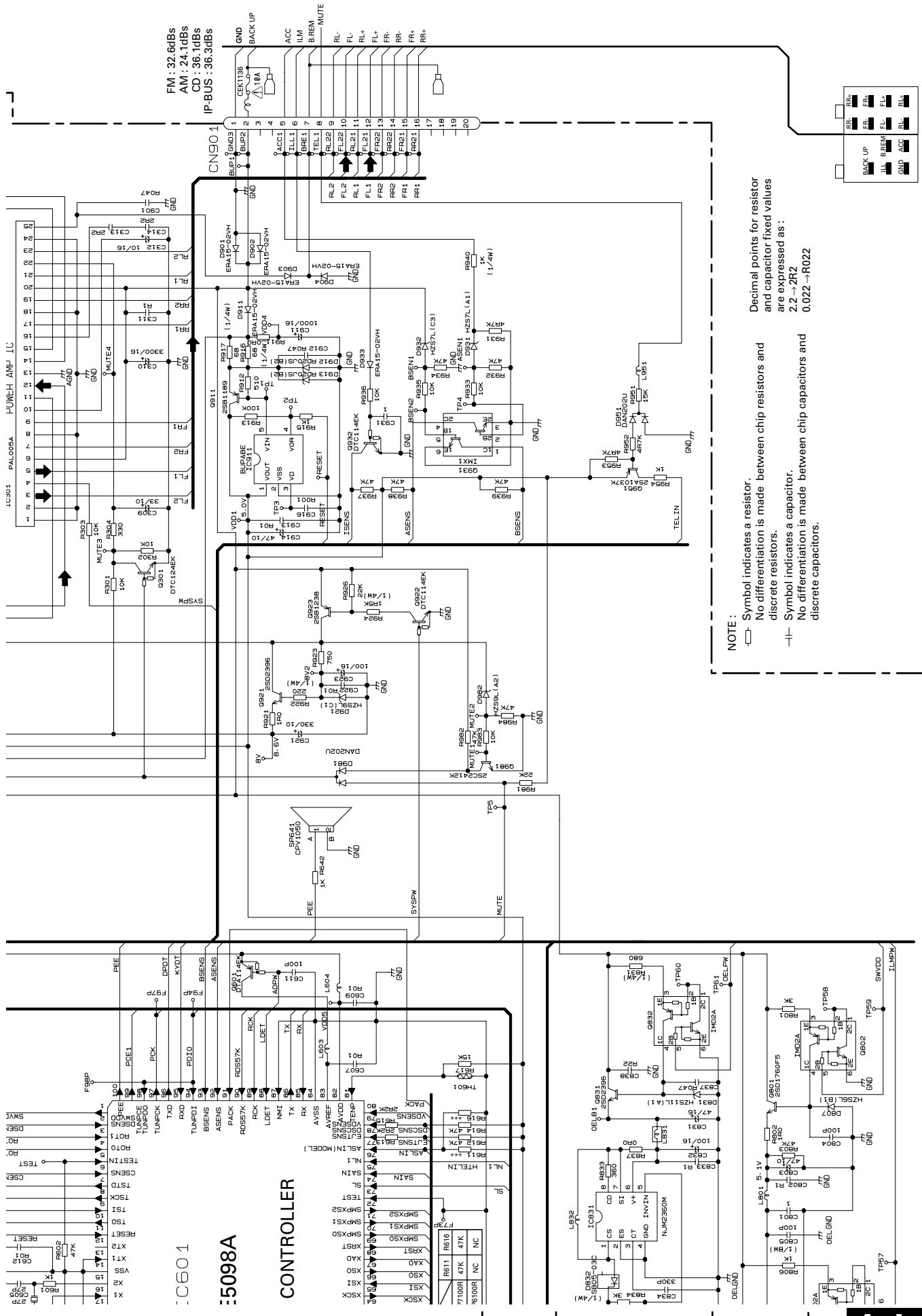
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- ▶ TUNER SIGNAL
- ⇨ IP-BUS SIGNAL
- ⇨ CD SIGNAL
- ▶ CD/TUNER/IP-BUS SIGNAL

The Δ mark found on some component parts indicates the importance of the safety factor of the part. Therefore, when replacing, be sure to use parts of identical designation.

A TUNER AMP UNIT





A-a A-b

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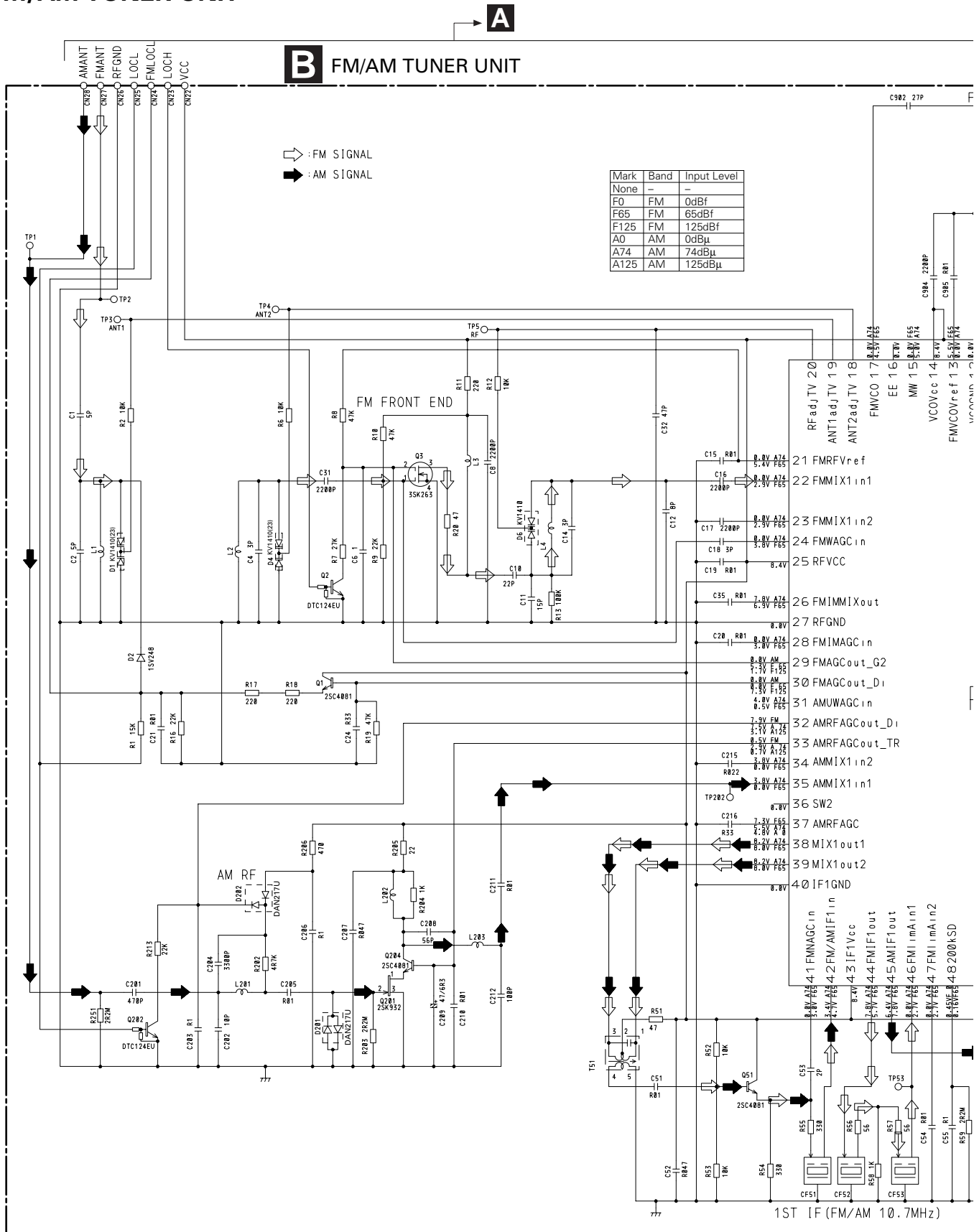
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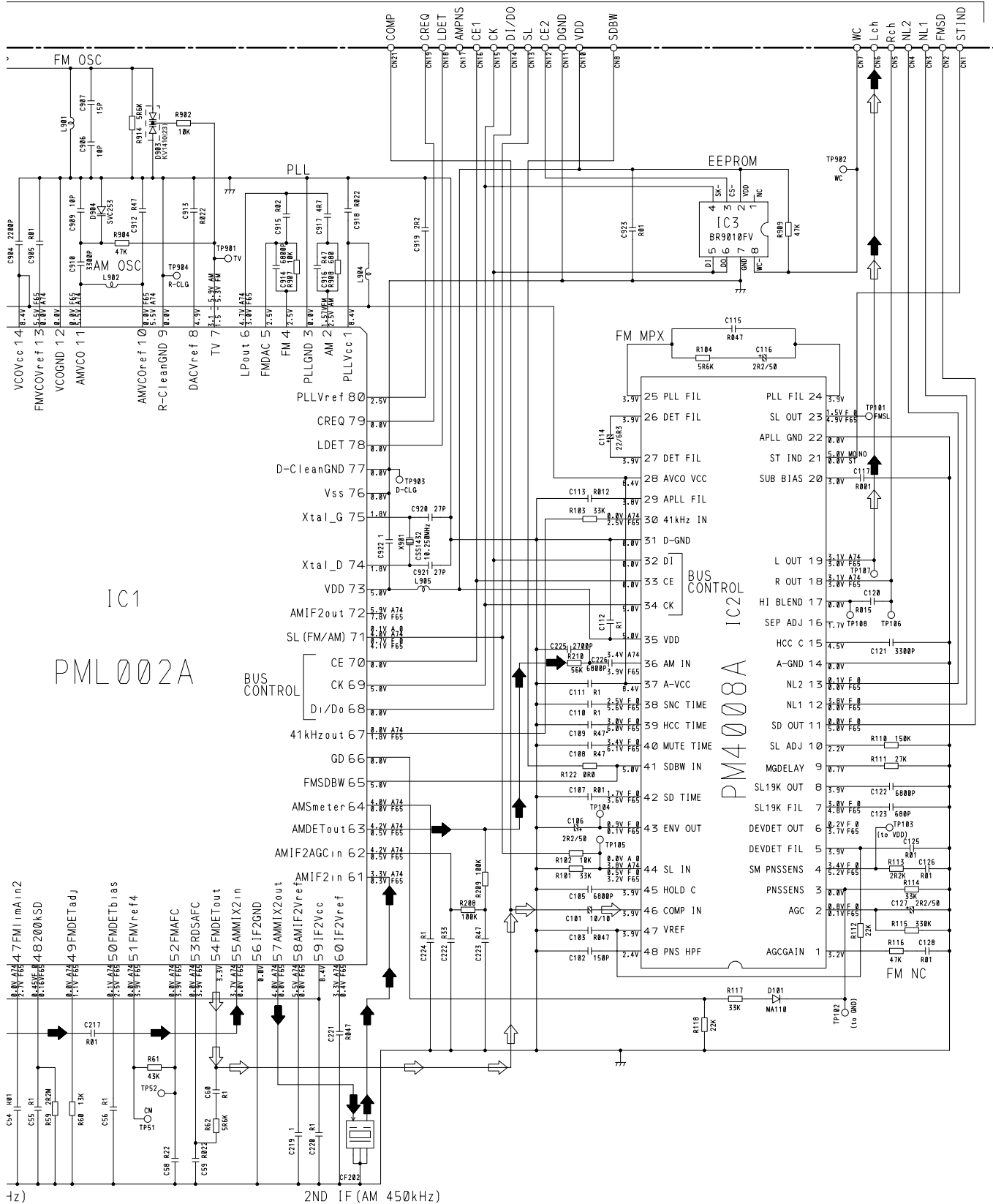
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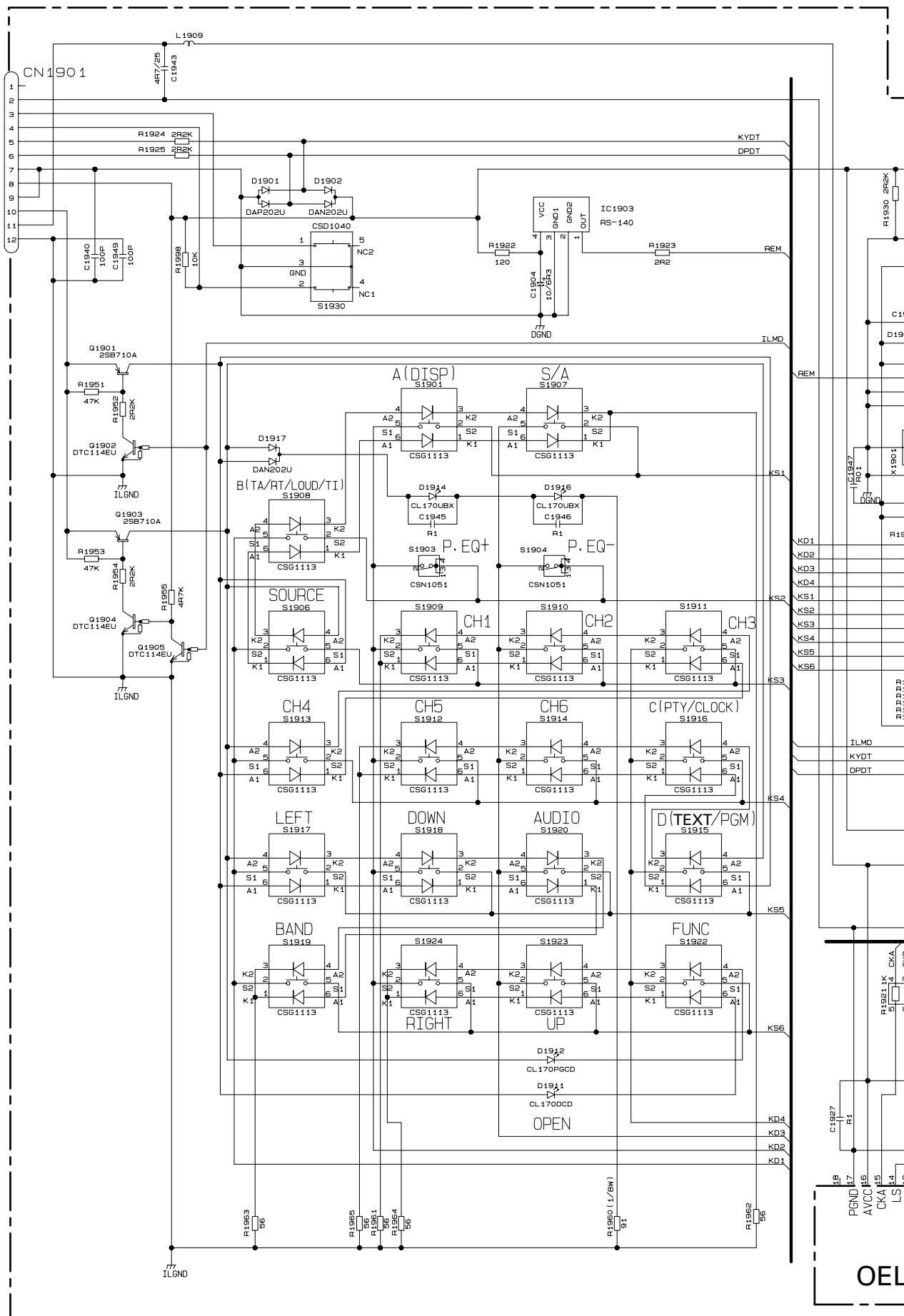
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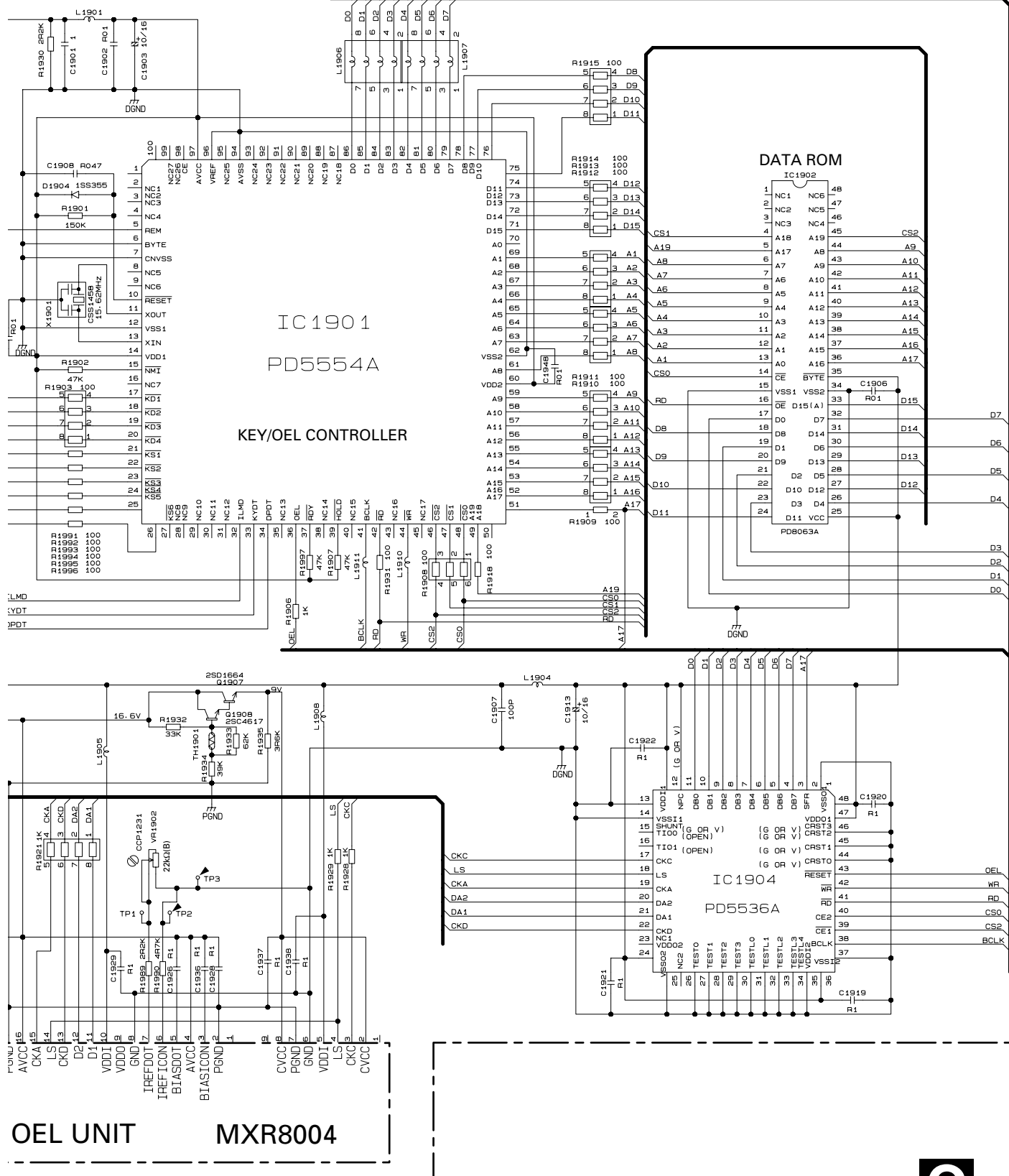
3.3 FM/AM TUNER UNIT





3.4 KEYBOARD UNIT

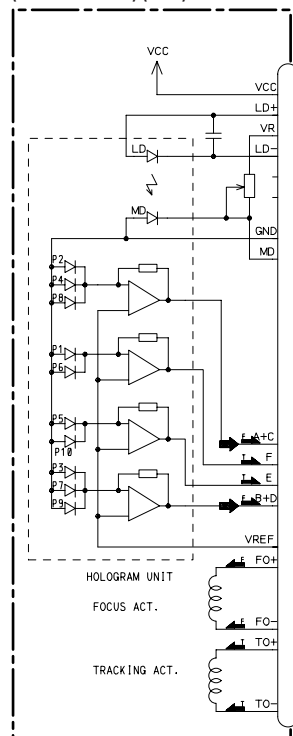




3.5 CD MECHANISM MODULE

D CONTROL UNIT

PICKUP UNIT (SERVICE)(P8)



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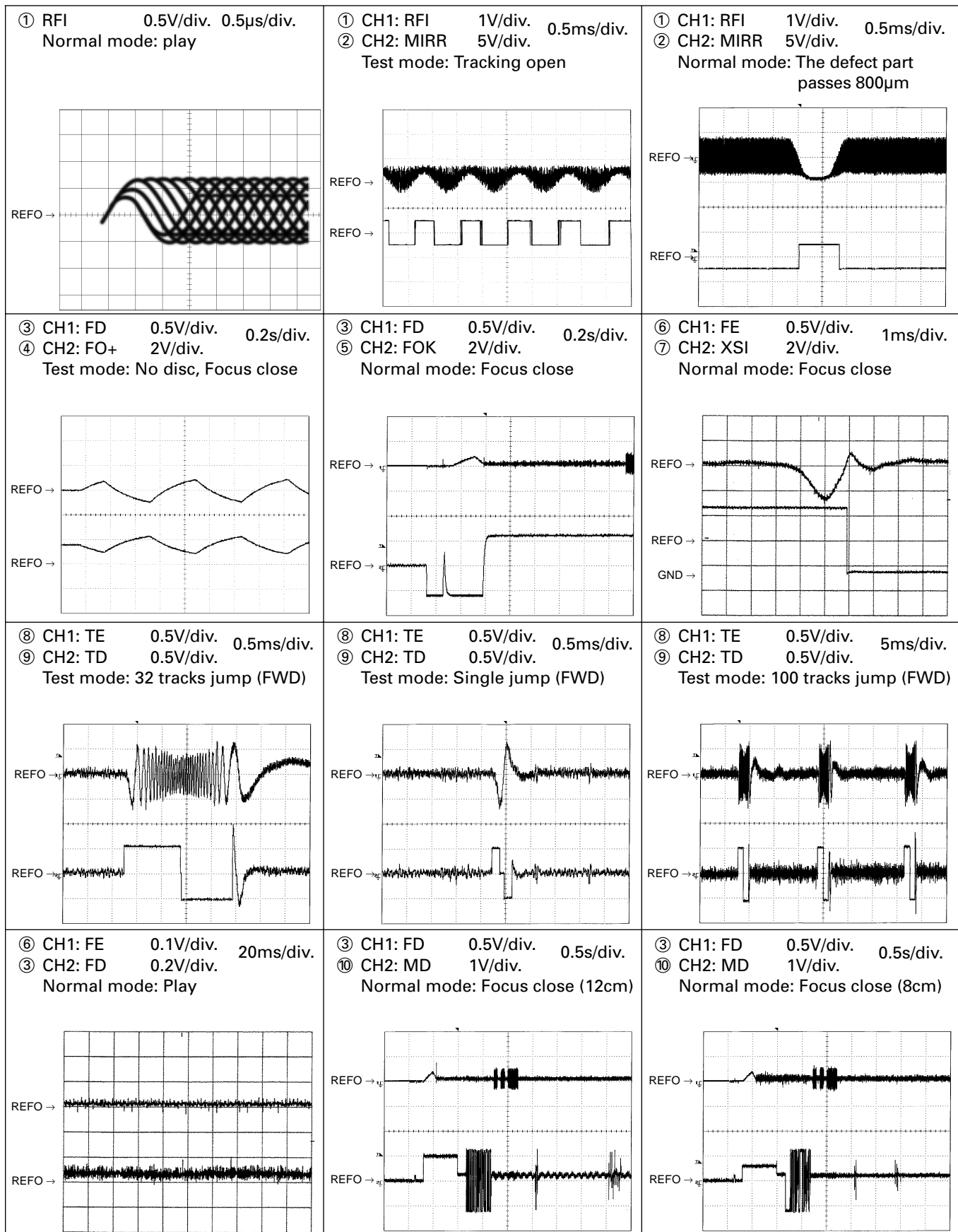
A CN651

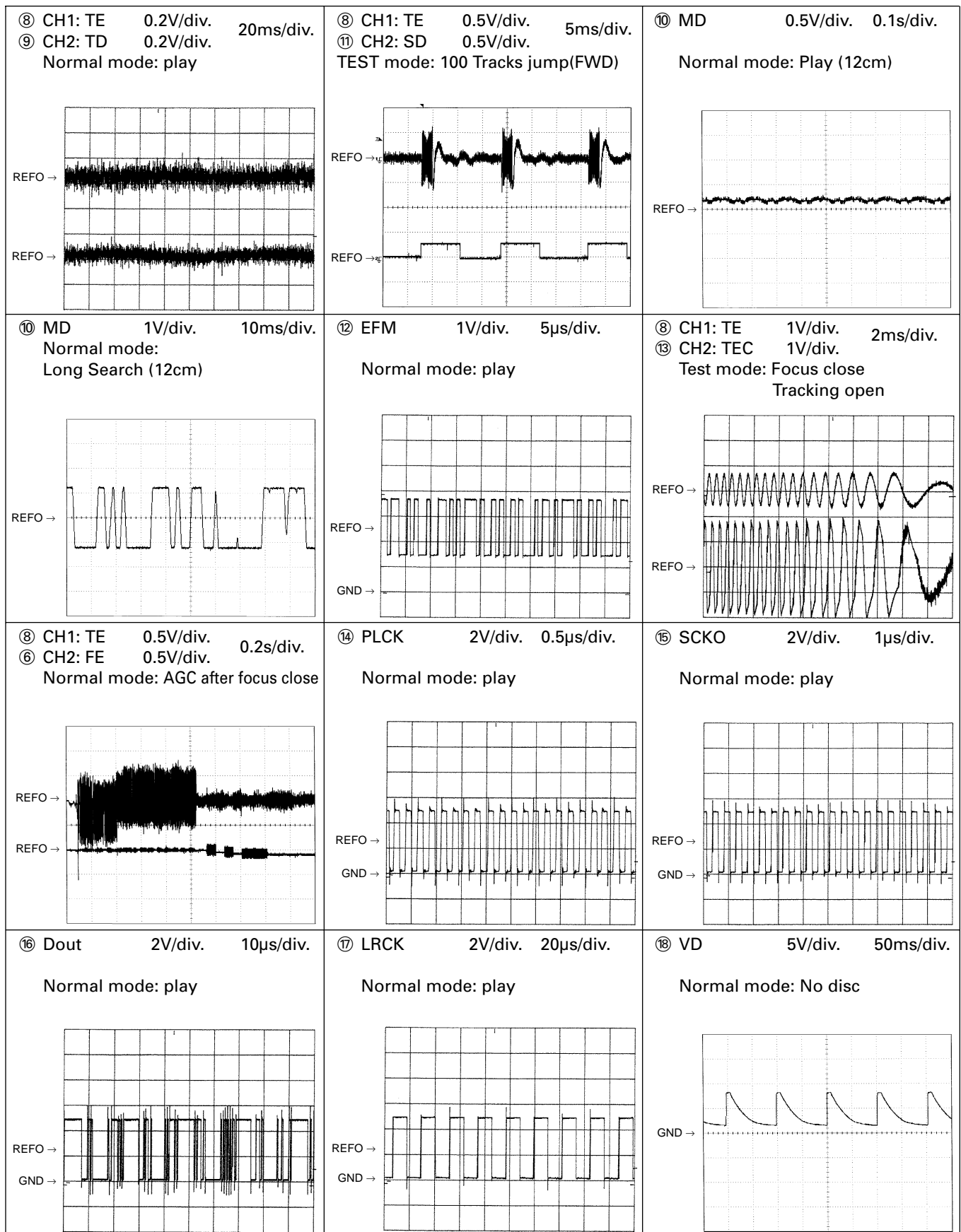
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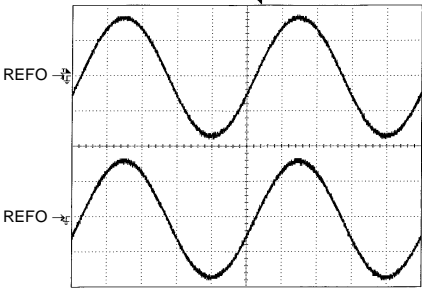
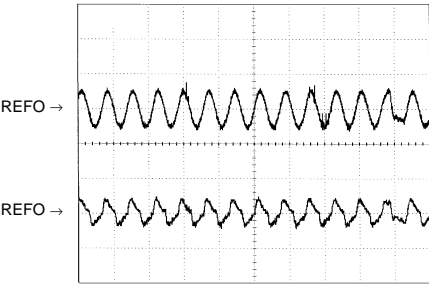
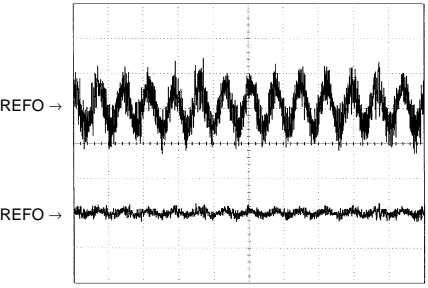
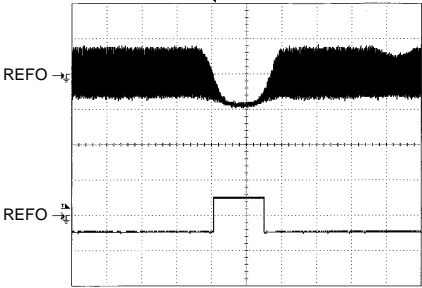
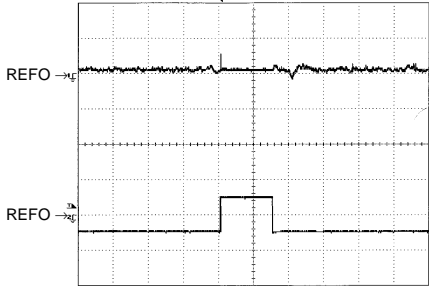
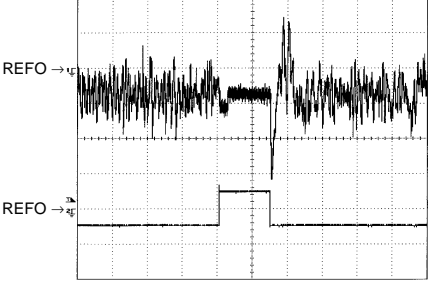
D

Note:1. The encircled numbers denote measuring pointes in the circuit diagram.
2. Reference voltage
REFO:2.5V

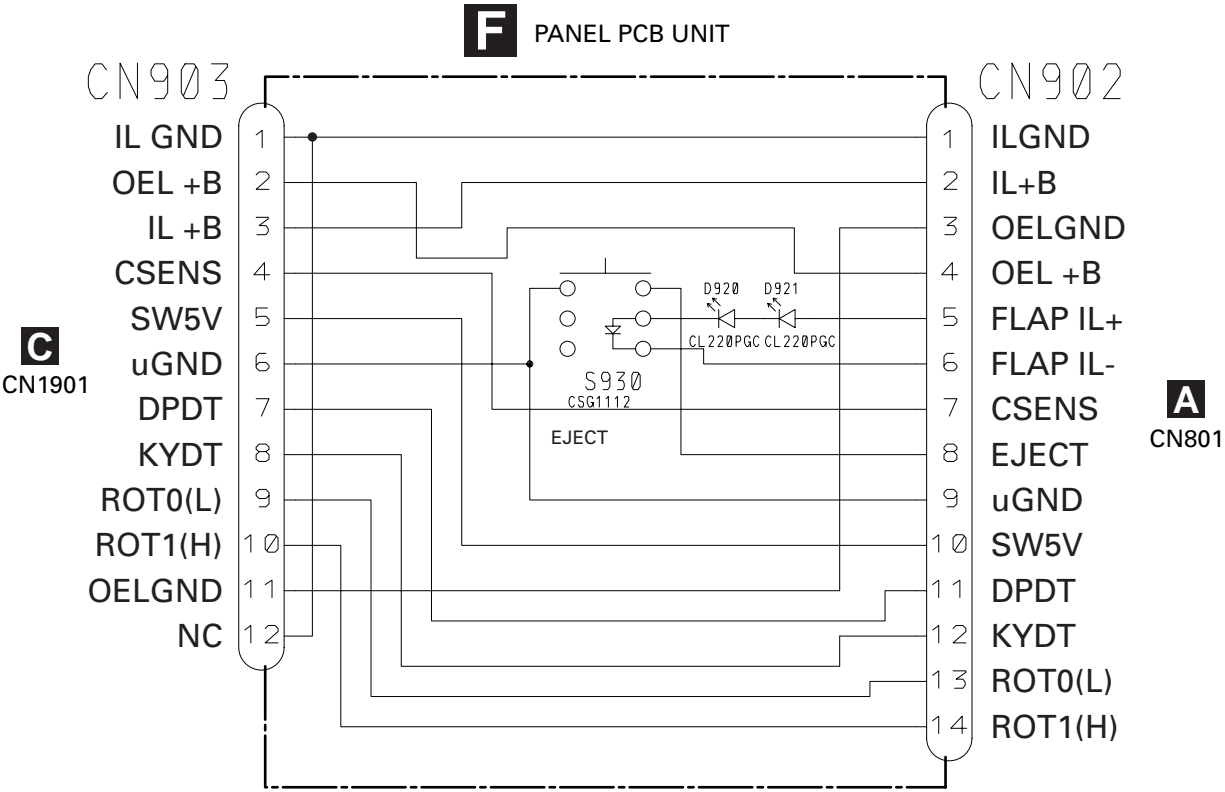
● Waveforms



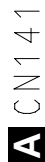


<div><div><div>⑱ CH1: R OUT 1V/div. 0.2ms/div.</div><div>⑳ CH2: L OUT 1V/div.</div></div><div>Normal mode: Play (1kHz 0dB)</div><div></div></div>	<div><div><div>⑥ CH1: FE 0.2V/div. 1ms/div.</div><div>③ CH2: FD 0.5V/div.</div></div><div>Normal mode: During AGC</div><div></div></div>	<div><div><div>⑧ CH1: TE 0.2V/div. 1ms/div.</div><div>⑨ CH2: TD 0.5V/div.</div></div><div>Normal mode: During AGC</div><div></div></div>
<div><div><div>① CH1: RFI 1V/div. 0.5ms/div.</div><div>② CH2: HOLD 5V/div.</div></div><div>Normal mode: The defect part passes 800μm(B.D)</div><div></div></div>	<div><div><div>③ CH1: FD 0.5V/div. 0.5ms/div.</div><div>② CH2: HOLD 5V/div.</div></div><div>Normal mode: The defect part passes 800μm(B.D)</div><div></div></div>	<div><div><div>⑨ CH1: TD 0.1V/div. 0.5ms/div.</div><div>② CH2: HOLD 5V/div.</div></div><div>Normal mode: The defect part passes 800μm(B.D)</div><div></div></div>

3.6 PANEL PCB UNIT



The logo of the German Society for Quality Management (DGQ) is a black square containing a white capital letter 'G'.

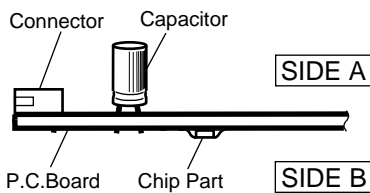


4. PCB CONNECTION DIAGRAM

4.1 TUNER AMP UNIT

NOTE FOR PCB DIAGRAMS

1. The parts mounted on this PCB include all necessary parts for several destination.
For further information for respective destinations, be sure to check with the schematic diagram.
2. Viewpoint of PCB diagrams

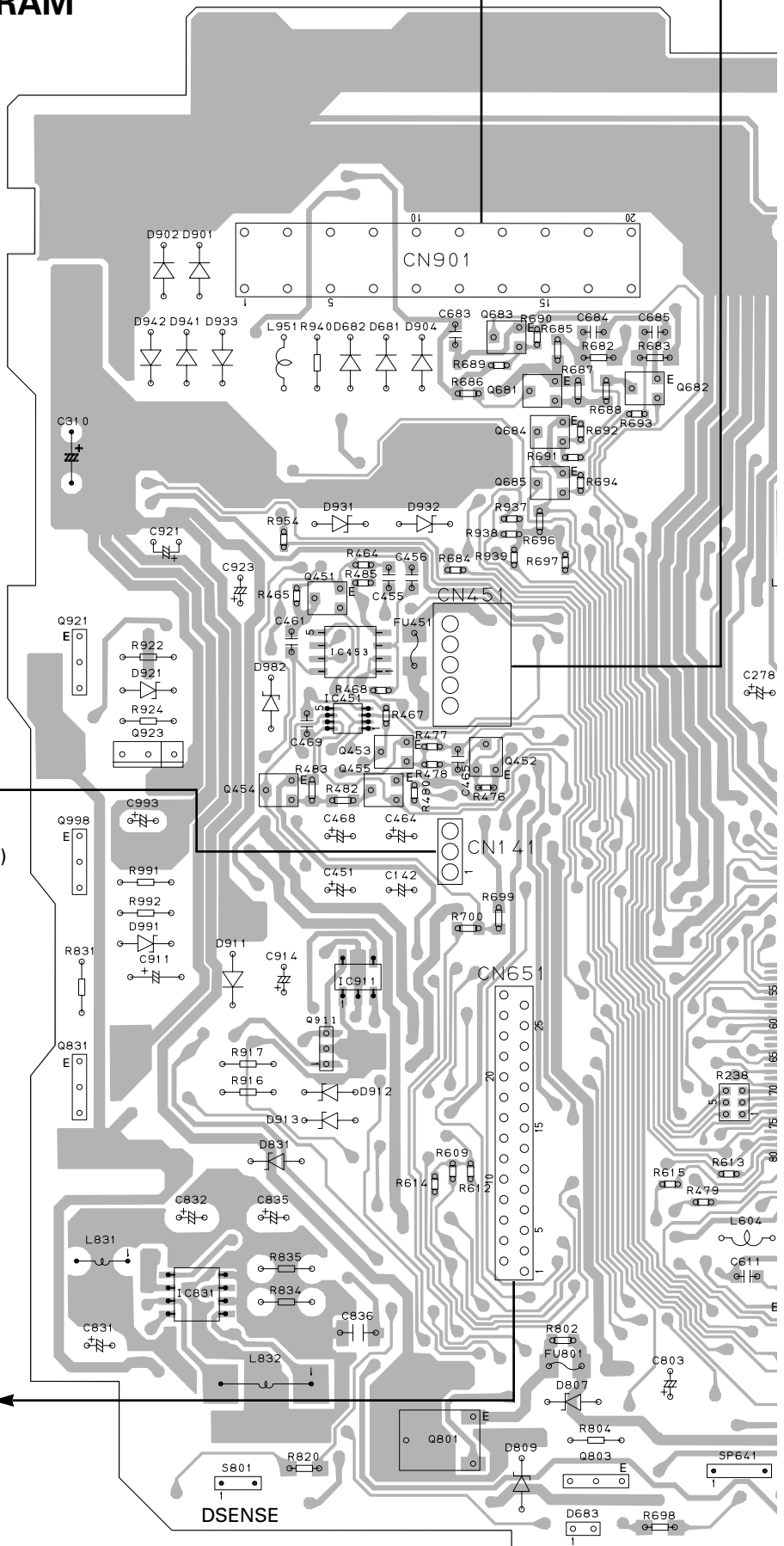


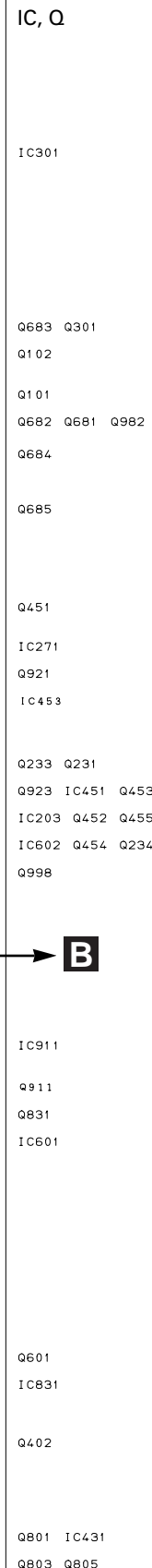
G
CN4501
(DEH-P7100R/X1N/EW)

D
CN701

A TUNER AMP UNIT

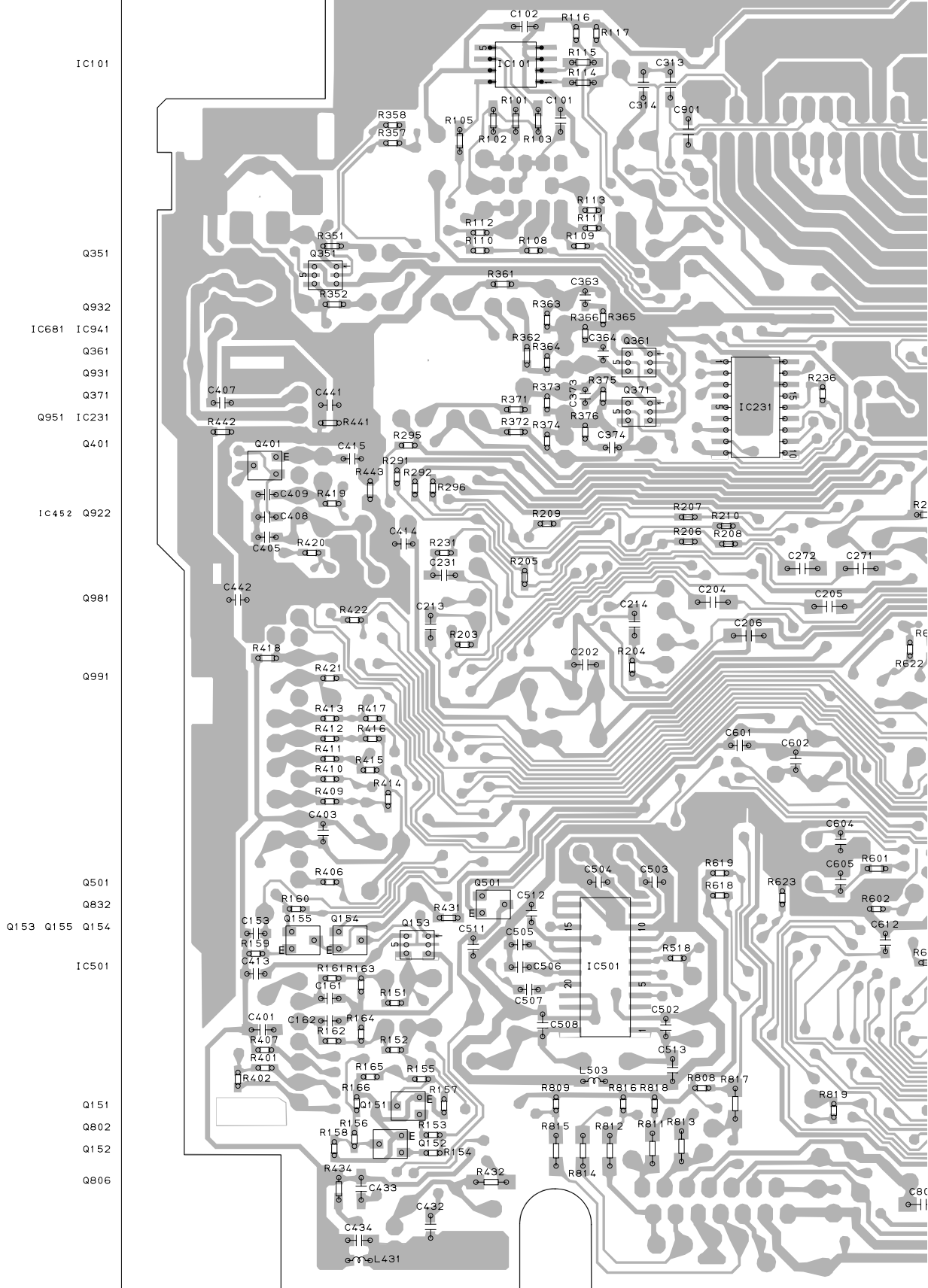
CORD ASSY
HANDS FREE KIT
(DEH-P7100R/X1N/EW)



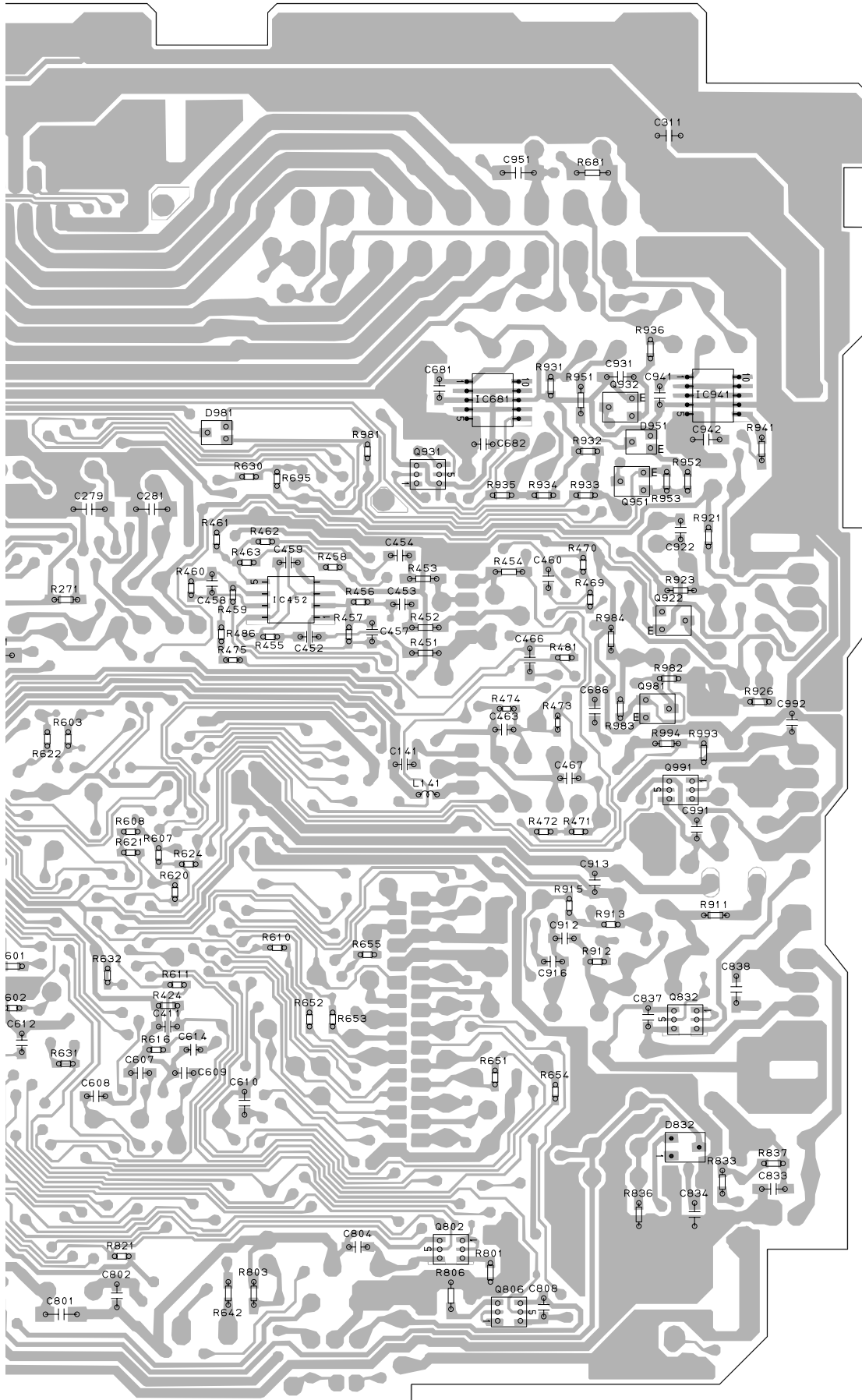


A TUNER AMP UNIT

IC, Q



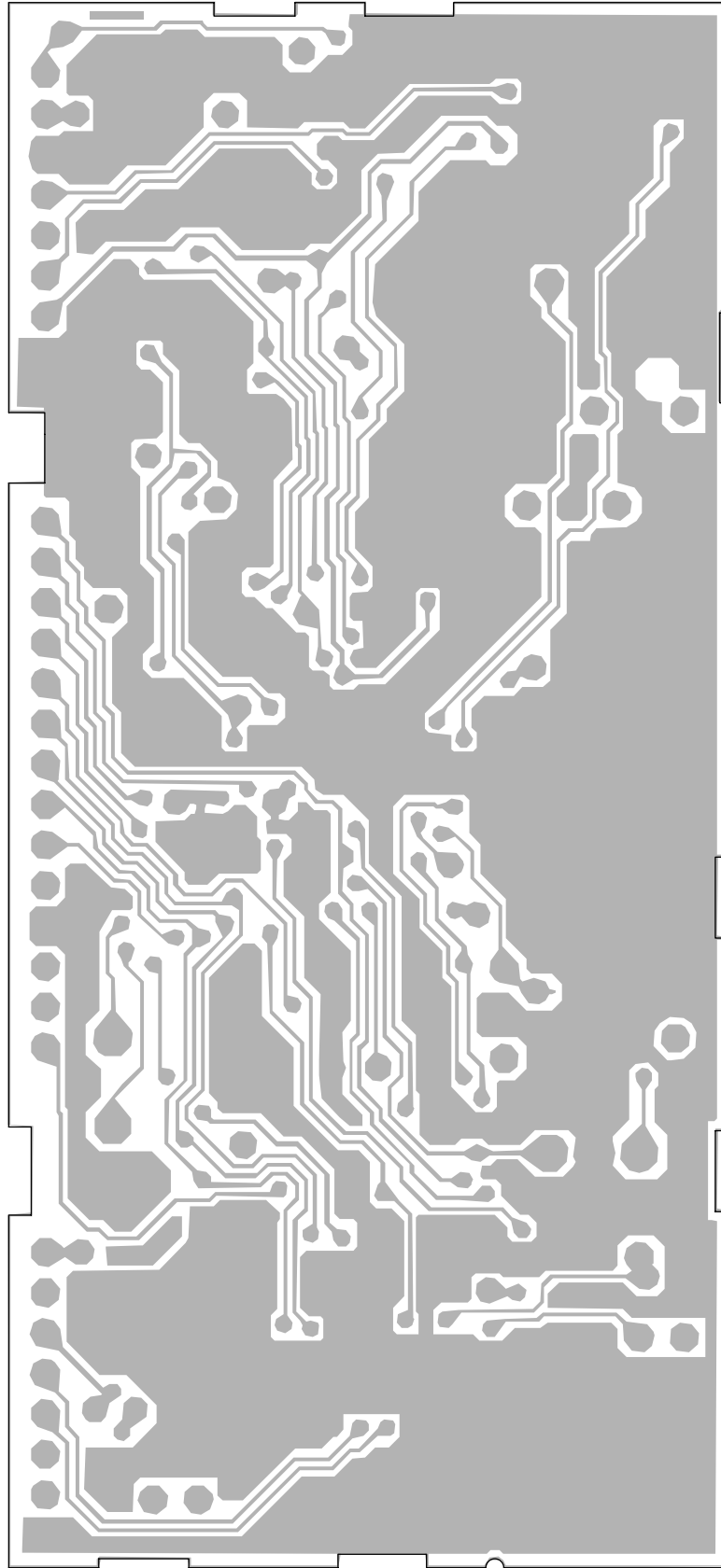
SIDE B



B

A

SIDE B



FM/AM TUNER UNIT

B

B

A

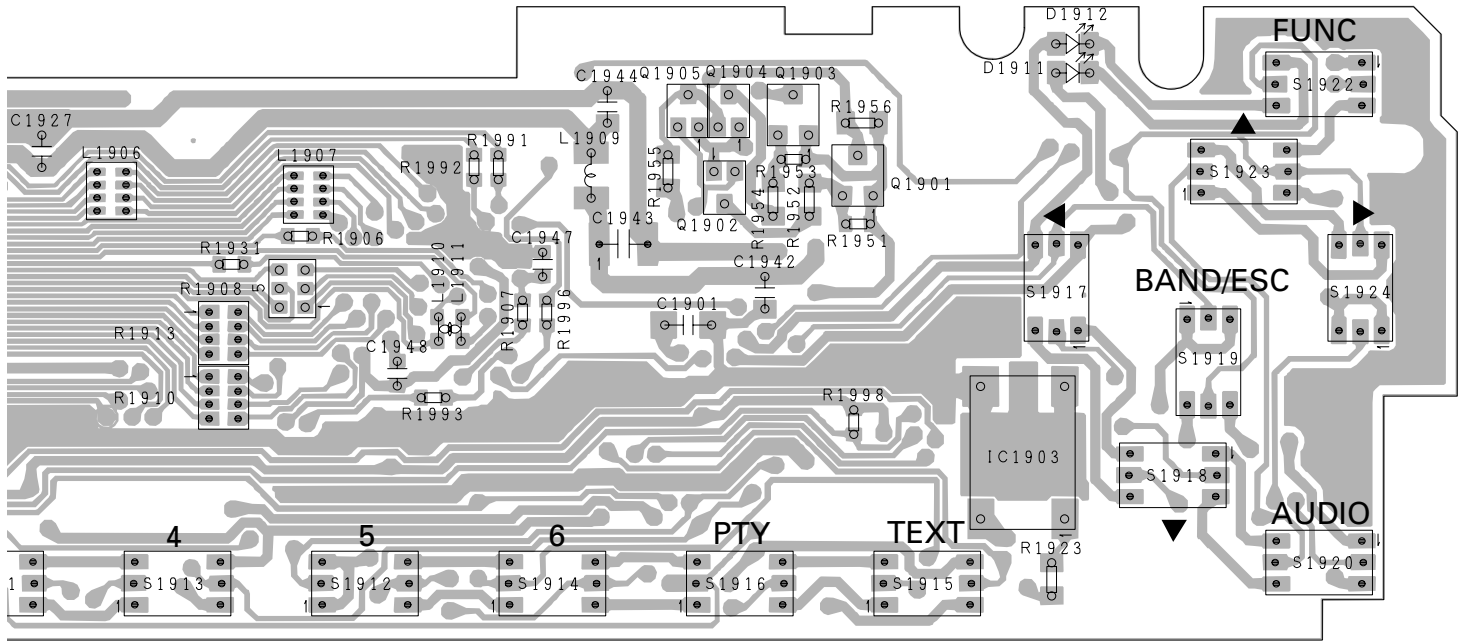
C



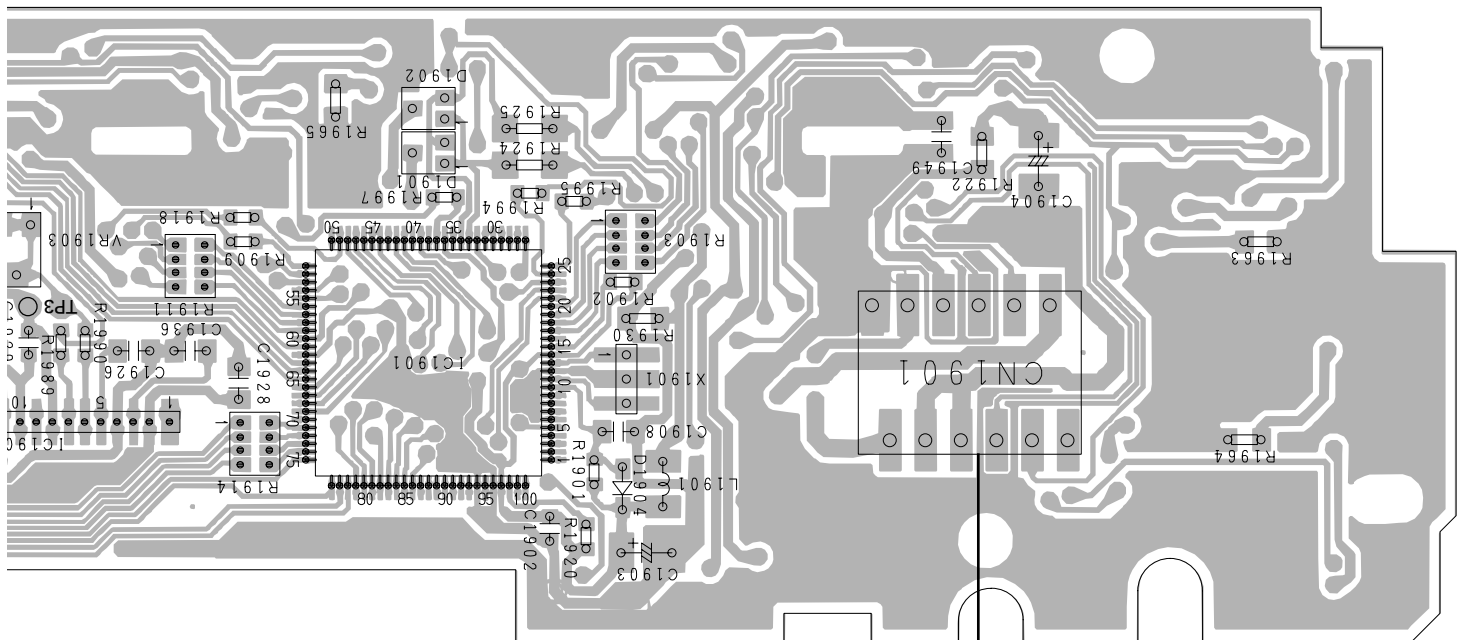
C



SIDE A



SIDE B

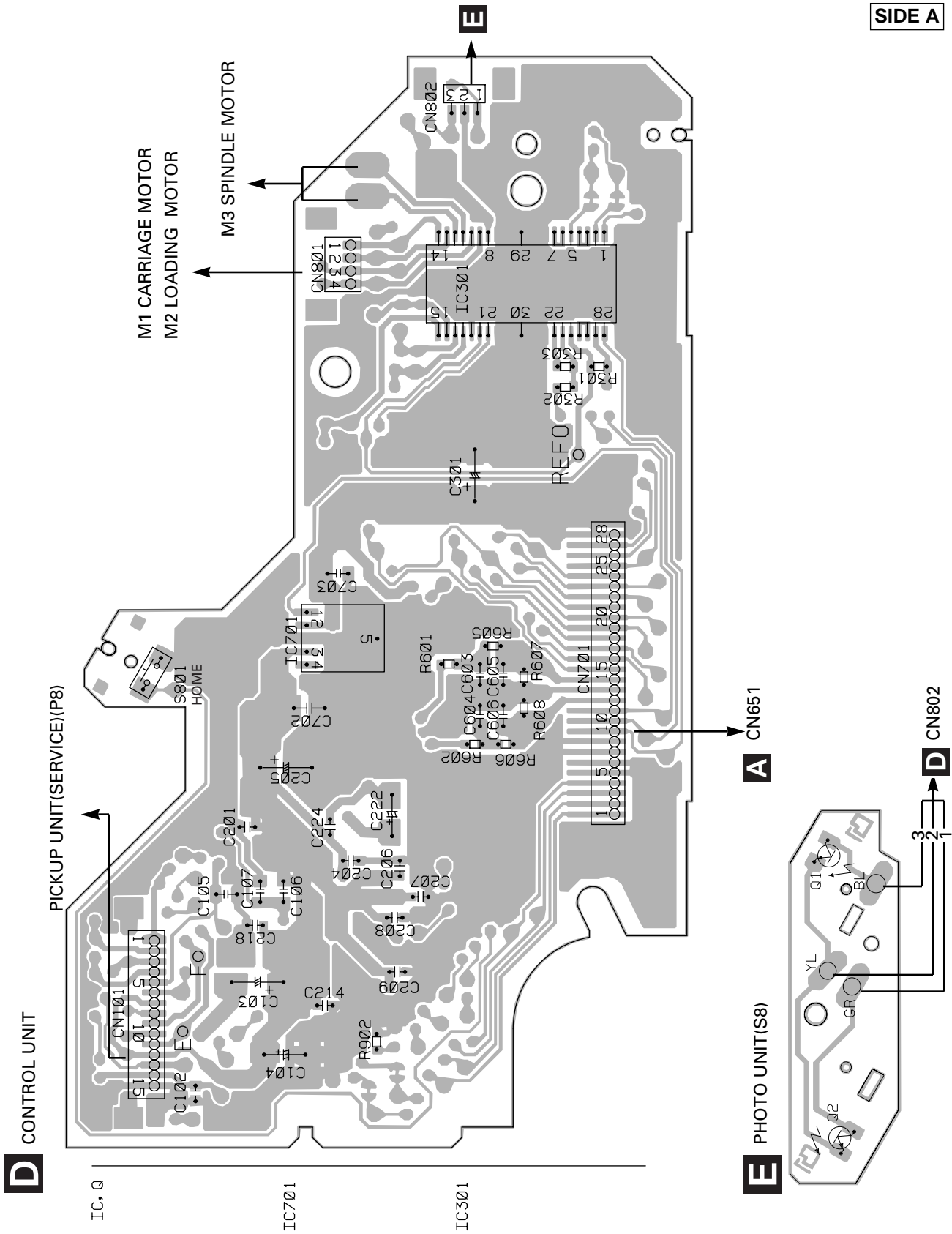


F CN903

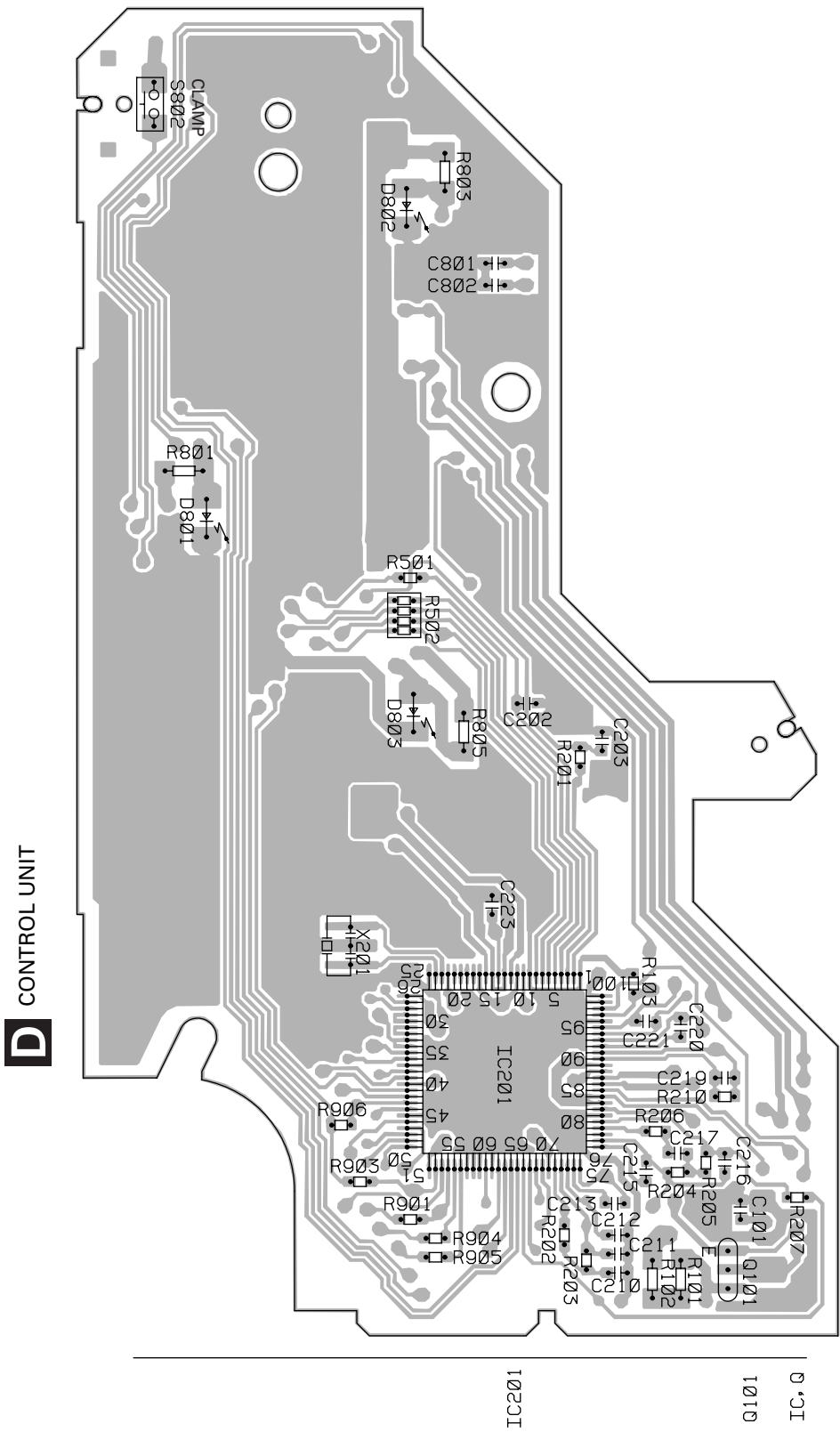
C

4.4 CD MECHANISM MODULE

SIDE A



SIDE B

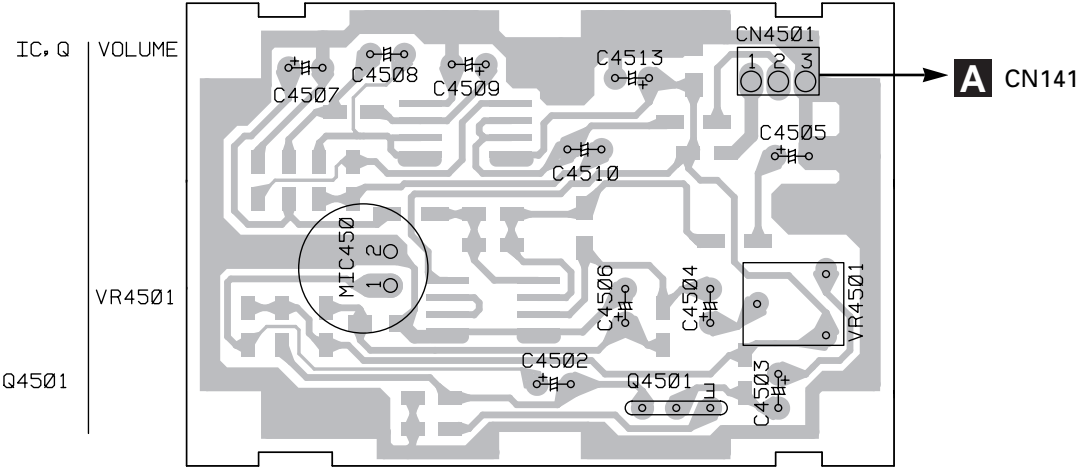


F

4.6 ASL UNIT (DEH-P7100R/X1N/EW)

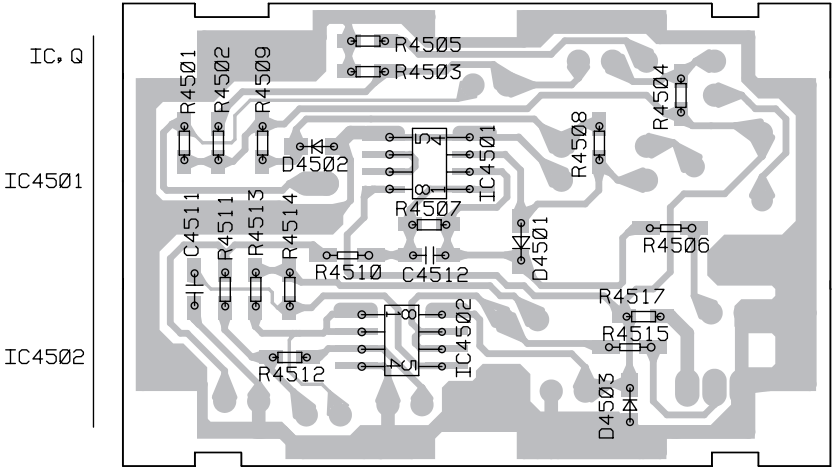
G ASL UNIT

SIDE A



G ASL UNIT

SIDE B



5. ELECTRICAL PARTS LIST

NOTES:

- Parts whose parts numbers are omitted are subject to being not supplied.
- The part numbers shown below indicate chip components.

Chip Resistor
RS1/○S○○○○J,RS1/○○S○○○○J
Chip Capacitor (except for CQS.....)
CKS....., CCS....., CSZS.....

====Circuit Symbol and No.===Part Name	Part No.	====Circuit Symbol and No.===Part Name	Part No.
B Unit Number : CWE1500 Unit Name : FM/AM Tuner Unit		R 16	RS1/16S223J
		R 17	RS1/16S221J
MISCELLANEOUS		R 18	RS1/16S221J
		R 19	RS1/16S473J
IC 1 IC	PML002A	R 20	RS1/16S470J
IC 2 IC	PM4008A	R 51	RS1/16S470J
IC 3 IC	BR9010FV	R 52	RS1/16S103J
Q 1 Transistor	2SC4081	R 53	RS1/16S103J
Q 2 Transistor	DTC124EU	R 54	RS1/16S331J
		R 55	RS1/16S331J
Q 3 FET	3SK263		
Q 51 Transistor	2SC4081	R 56	RS1/16S560J
Q 201 FET	2SK932	R 57	RS1/16S560J
Q 202 Transistor	DTC124EU	R 58	RS1/16S102J
Q 204 Transistor	2SC4081	R 59	RS1/16S225J
		R 60	RS1/16S133J
D 1 Diode	KV1410(23)		
D 2 Diode	1SV248	R 61	RS1/16S433J
D 4 Diode	KV1410(23)	R 62	RS1/16S562J
D 6 Diode	KV1410(23)	R 101	RS1/16S333J
D 101 Diode	1SS355	R 102	RS1/16S103J
		R 103	RS1/16S333J
D 201 Diode	DAN217U		
D 202 Diode	DAN217U	R 104	RS1/16S562J
D 903 Diode	KV1410(23)	R 110	RS1/16S154J
D 904 Diode	SVC253	R 111	RS1/16S273J
L 1 Coil	CTC1155	R 112	RS1/16S223J
		R 113	RS1/16S222J
L 2 Coil	CTC1155		
L 3 Inductor	LCTB100K2125	R 114	RS1/16S333J
L 4 Coil	CTC1155	R 115	RS1/16S334J
L 201 Inductor	LCTB330M1608	R 116	RS1/16S473J
L 202 Inductor	CTF1287	R 117	RS1/16S333J
		R 118	RS1/16S223J
L 203 Inductor	LCTA121J3225		
L 901 Coil	CTC1154	R 122	RS1/16S0R0J
L 902 Inductor	LCTA3R3J3225	R 202	RS1/16S472J
L 904 Inductor	LCTBR47M1608	R 203	RS1/16S225J
L 905 Inductor	LCTBR47M1608	R 204	RS1/16S102J
		R 205	RS1/16S220J
T 51 Coil	CTE1132		
CF 51 Ceramic Filter	CTF1442	R 206	RS1/16S471J
CF 52 Ceramic Filter	CTF1442	R 208	RS1/16S104J
CF 53 Ceramic Filter	CTF1442	R 209	RS1/16S104J
CF 202 Ceramic Filter	CTF1348	R 210	RS1/16S563J
		R 213	RS1/16S223J
X 901 Crystal Resonator 10.250MHz	CSS1432		
RESISTORS		R 251	RS1/16S225J
		R 902	RS1/16S103J
R 1	RS1/16S153J	R 904	RS1/16S473J
R 2	RS1/16S103J	R 907	RS1/16S103J
R 6	RS1/16S103J	R 908	RS1/16S681J
R 7	RS1/16S273J		
R 8	RS1/16S473J	R 909	RS1/16S473J
		R 914	RS1/16S562J
R 9	RS1/16S223J	CAPACITORS	
R 10	RS1/16S473J	C 1	CCSQCH5R0C50
R 11	RS1/16S221J	C 2	CCSRCH5R0C50
R 12	RS1/16S103J	C 4	CCSRCJ3R0C50
R 13	RS1/16S104J	C 6	CKSQYB105K10
		C 8	CKSRYB222K50

====Circuit Symbol and No.====Part Name	Part No.	====Circuit Symbol and No.====Part Name	Part No.
C 10	CCSRCH220J50	C 221	CKSRYPB473K16
C 11	CCSRCH150J50	C 222	CKSQYB334K16
C 12	CCSRCH8R0D50	C 223	CKSQYB474K16
C 14	CCSRCJ3R0C50	C 224	CKSRYPB104K16
C 15	CKSRYPB103K50	C 225	CKSRYPB272K50
C 16	CKSRYPB222K50	C 226	CKSRYPB682K25
C 17	CKSRYPB222K50	C 902	CCSRCH270J50
C 18	CCSRCJ3R0C50	C 904	CKSRYPB223K25
C 19	CKSRYPB103K50	C 905	CKSRYPB103K50
C 20	CKSRYPB103K50	C 906	CCSRTH100D50
C 21	CKSRYPB103K50	C 907	CCSRTH150J50
C 24	CKSQYB334K16	C 909	CCSRTH100D50
C 31	CKSRYPB222K50	C 910	CKSRYPB332K50
C 32	CCSRCH470J50	C 912	CKSQYB474K16
C 35	CKSRYPB103K50	C 913	CKSRYPB223K25
C 51	CKSRYPB103K50	C 914	CKSRYPB682K25
C 52	CKSRYPB473K16	C 915	CKSQYB223K25
C 53	CCSRCK2R0C50	C 916	CKSQYB474K16
C 54	CKSRYPB103K50	C 917	CKSYB475K10
C 55	CKSRYPB104K16	C 918	CKSRYPB223K25
C 56	CKSRYPB104K16	C 919	CKSQYB225K10
C 58	CKSQYB224K16	C 920	CCSRCH270J50
C 59	CKSRYPB223K25	C 921	CCSRCH270J50
C 60	CKSRYPB104K16	C 922	CKSYB105K16
C 101	CEALNP100M10	C 923	CKSRYPB103K50
C 102	CCSRCH151J50	A Unit Number : CWM6932 (DEH-P7100R/X1N/EW) : CWM6937 (DEH-P6100R/X1N/EW) Unit Name : Tuner Amp Unit	
C 103	CKSRYPB473K16		
C 105	CKSRYPB682K25		
C 106	CEAL2R2M50		
C 107	CKSRYPB103K50	MISCELLANEOUS	
C 108	CKSQYB474K16		
C 109	CKSQYB474K16		
C 110	CKSRYPB104K16		
C 111	CKSRYPB104K16	IC 101	IC
C 112	CKSRYPB104K16	IC 203	IC
C 113	CKSRYPB123K25	IC 231	IC (DEH-P7100R)
C 114	CEAL220M6R3	IC 271	IC (DEH-P7100R)
C 115	CKSRYPB473K16	IC 301	IC
C 116	CEAL2R2M50	IC 431	IC
C 117	CKSRYPB102K50	IC 452	IC (DEH-P7100R)
C 120	CKSRYPB153K25	IC 453	IC (DEH-P7100R)
C 121	CKSRYPB332K50	IC 501	IC
C 122	CKSRYPB682K25	IC 601	IC
C 123	CKSRYPB681K50	IC 831	IC
C 125	CKSRYPB103K50	IC 911	IC
C 126	CKSRYPB103K50	Q 101	Transistor
C 127	CEAL2R2M50	Q 102	Transistor
C 128	CKSRYPB103K50	Q 151	Transistor
C 201	CCSRCH471J50	Q 152	Transistor
C 202	CCSRCH100D50	Q 153	Transistor
C 203	CKSRYPB104K16	Q 154	Transistor
C 204	CKSRYPB332K50	Q 155	Transistor
C 205	CKSRYPB103K50	Q 231	Transistor (DEH-P7100R)
C 206	CKSRYPB104K16	Q 233	Transistor (DEH-P7100R)
C 207	CKSRYPB473K16	Q 234	Transistor (DEH-P7100R)
C 208	CCSRCH560J50	Q 301	Transistor
C 209	CEAL470M6R3	Q 351	Transistor (DEH-P7100R)
C 210	CKSRYPB103K50	Q 351	Transistor (DEH-P6100R)
C 211	CKSRYPB103K50	Q 371	Transistor (DEH-P7100R)
C 212	CCSRCH101J50	Q 401	Transistor
C 215	CKSRYPB223K25	Q 402	Transistor
C 216	CKSQYB334K16	Q 451	Transistor (DEH-P7100R)
C 217	CKSRYPB103K50	Q 452	Transistor (DEH-P7100R)
C 219	CKSQYB105K10	Q 453	Transistor (DEH-P7100R)
C 220	CKSRYPB104K16	Q 454	Transistor (DEH-P7100R)
		Q 455	Transistor (DEH-P7100R)
		Q 501	Transistor
		Q 601	Transistor

DEH-P7100R,P6100R

====Circuit Symbol and No.==Part Name			Part No.	====Circuit Symbol and No.==Part Name			Part No.
Q	801	Transistor	2SD1760F5	X	601	Radiator 12.5829MHz	CSS1495
Q	802	Transistor	IMD2A	S	801	Switch(DSENSE)	CSN1039
Q	803	Transistor	2SD1859	FU	451	Micro-Fuse 200mA (DEH-P7100R)	CEK1189
Q	805	Transistor	DTC143EK			FM/AM Tuner Unit	CWE1500
Q	806	Transistor	IMD2A	SP	641	Buzzer	CPV1050
				RESISTORS			
Q	831	Transistor	2SD2396	R	101		RS1/10S101J
Q	832	Transistor	IMD2A	R	102		RS1/10S620J
Q	911	Transistor	2SB1189	R	103		RS1/10S101J
Q	921	Transistor	2SD2396	R	104		RS1/10S222J
Q	922	Transistor	DTC114EK	R	105		RS1/10S103J
Q	923	Transistor	2SB1238				
Q	931	Transistor	IMX1	R	106		RS1/10S562J
Q	932	Transistor	DTC114EK	R	107		RS1/10S332J
Q	951	Transistor	2SA1037K	R	108		RS1/16S102J
Q	981	Transistor	2SC2412K	R	109		RS1/16S102J
Q	982	Transistor	IMD2A	R	110		RS1/16S223J
Q	991	Transistor	IMD2A				
Q	998	Transistor	2SD2396	R	111		RS1/16S223J
D	432	Diode	HZS16L(1)	R	112		RS1/16S181J
D	801	Diode Network	DA204U	R	113		RS1/16S181J
				R	114		RS1/10S102J
				R	115		RS1/10S102J
D	802	Diode Network	DA204U				
D	803	Diode Network	DA204U	R	116		RS1/16S473J
D	804	Diode Network	DA204U	R	117		RS1/16S473J
D	805	Diode Network	DA204U	R	153		RS1/16S224J
D	807	Diode	HZS6L(B1)	R	154		RS1/16S224J
				R	155		RS1/16S222J
D	809	Diode	HZS11L(A1)				
D	831	Diode	HZS11L(A1)	R	156		RS1/16S222J
D	832	Diode	SB05-03C	R	157		RS1/16S223J
D	901	Diode	ERA15-02VH	R	158		RS1/16S223J
D	902	Diode	ERA15-02VH	R	159		RS1/16S224J
				R	160		RS1/16S473J
D	903	Diode	ERA15-02VH				
D	904	Diode	ERA15-02VH	R	161		RS1/16S162J
D	911	Diode	ERA15-02VH	R	162		RS1/16S162J
D	912	Diode	RD20JS(B2)	R	163		RS1/16S272J
D	913	Diode	RD20JS(B2)	R	164		RS1/16S272J
				R	165		RS1/16S104J
D	921	Diode	HZS9L(C1)				
D	931	Diode	HZS7L(A1)	R	166		RS1/16S104J
D	932	Diode	HZS7L(C3)	R	203		RS1/16S102J
D	933	Diode	ERA15-02VH	R	204		RS1/16S102J
D	951	Diode	DAN202U	R	231	(DEH-P7100R)	RS1/16S224J
				R	232	(DEH-P7100R)	RS1/16S224J
D	981	Diode	DAN202U				
D	982	Diode	HZS9L(A2)	R	233	(DEH-P7100R)	RS1/16S104J
D	985	Diode	1SS270	R	234	(DEH-P7100R)	RS1/16S104J
D	991	Diode	HZS9L(B1)	R	235	(DEH-P7100R)	RS1/16S102J
ZNR	401	Surge-Protector	DSP-201M-A21F	R	236	(DEH-P7100R)	RS1/16S473J
				R	237	(DEH-P7100R)	RS1/16S102J
L	101	Inductor	LAU3R3K				
L	141	Inductor (DEH-P7100R)	CTF1420	R	238	(DEH-P7100R)	RA3C102J
L	201	Ferri-Inductor	LAU2R2K	R	239	(DEH-P7100R)	RS1/16S103J
L	271	Ferri-Inductor (DEH-P7100R)	LAU101K	R	240	(DEH-P7100R)	RS1/16S103J
L	401	Ferri-Inductor	LAU2R2K	R	241	(DEH-P7100R)	RS1/16S223J
				R	242	(DEH-P7100R)	RS1/16S103J
L	402	Ferri-Inductor	LAU4R7K				
L	404	Ferri-Inductor	LAU1R0M	R	271	(DEH-P7100R)	RS1/10S203J
L	501	Inductor	LAU100K	R	272	(DEH-P7100R)	RS1/8S0R0J
L	502	Ferri-Inductor	LAU101K	R	291	(DEH-P6100R)	RS1/16S0R0J
L	503	Inductor	CTF1420	R	292	(DEH-P6100R)	RS1/16S0R0J
				R	301		RS1/10S103J
L	601	Inductor	LAU100K				
L	602	Ferri-Inductor	LAU2R2K	R	302		RS1/10S103J
L	603	Ferri-Inductor	LAU2R2K	R	303		RS1/10S103J
L	604	Ferri-Inductor	LAU2R2K	R	304		RS1/10S331J
L	801	Inductor	LAU100K	R	351	(DEH-P7100R)	RS1/10S820J
				R	351	(DEH-P6100R)	RS1/10S821J
L	831	Inductor	CTF1489				
L	832	Inductor	CTF1510				
L	951	Ferri-Inductor	LAU2R2K	R	352	(DEH-P7100R)	RS1/10S820J
TH	601	Thermistor	CCX1037	R	352	(DEH-P6100R)	RS1/10S821J
X	501	Radiator 3.648MHz	CSS1500	R	353		RS1/16S223J
				R	354		RS1/16S223J
				R	355	(DEH-P7100R)	RS1/16S471J

====Circuit Symbol and No.==Part Name	Part No.	====Circuit Symbol and No.==Part Name	Part No.
R 356 (DEH-P7100R)	RS1/16S471J	R 482 (DEH-P7100R)	RS1/10S152J
R 357 (DEH-P7100R)	RS1/16S103J	R 483 (DEH-P7100R)	RS1/10S223J
R 357 (DEH-P6100R)	RS1/16S0R0J	R 485 (DEH-P7100R)	RS1/16S223J
R 358 (DEH-P7100R)	RS1/16S103J	R 486 (DEH-P7100R)	RS1/16S271J
R 358 (DEH-P6100R)	RS1/16S0R0J	R 501	RS1/16S102J
R 371 (DEH-P7100R)	RS1/10S820J	R 502	RS1/16S102J
R 372 (DEH-P7100R)	RS1/10S820J	R 503	RS1/16S102J
R 373 (DEH-P7100R)	RS1/16S223J	R 507	RS1/10S0R0J
R 374 (DEH-P7100R)	RS1/16S223J	R 511	RS1/16S102J
R 375 (DEH-P7100R)	RS1/16S471J	R 513	RS1/16S225J
R 376 (DEH-P7100R)	RS1/16S471J	R 518	RS1/16S681J
R 377 (DEH-P7100R)	RS1/16S103J	R 601	RS1/10S102J
R 378 (DEH-P7100R)	RS1/16S103J	R 602	RS1/16S473J
R 401	RS1/16S473J	R 606	RA3C102J
R 402	RS1/16S473J	R 607 (DEH-P6100R)	RS1/16S473J
R 403	RS1/16S681J	R 608 (DEH-P7100R)	RS1/16S473J
R 404	RS1/16S681J	R 609	RS1/16S473J
R 405	RS1/16S681J	R 610	RS1/16S222J
R 406	RS1/16S102J	R 611 (DEH-P7100R)	RN1/16SE4702D
R 407	RS1/16S473J	R 612	RS1/16S473J
R 409	RS1/16S681J	R 613	RS1/16S222J
R 410	RS1/16S103J	R 614	RS1/16S473J
R 411	RS1/16S681J	R 615	RS1/16S222J
R 412	RS1/16S681J	R 616 (DEH-P7100R)	RN1/16SE4702D
R 413	RS1/16S681J	R 617	RN1/16SE1502D
R 414	RS1/16S473J	R 624	RS1/16S473J
R 415	RS1/16S472J	R 642	RS1/10S102J
R 416	RS1/16S473J	R 651	RS1/16S681J
R 417	RS1/16S473J	R 652	RS1/16S102J
R 418	RS1/10S473J	R 653	RS1/16S102J
R 419	RS1/16S222J	R 654	RS1/16S681J
R 420	RS1/16S222J	R 655	RS1/16S681J
R 421	RS1/16S681J	R 801	RS1/10S302J
R 422	RS1/16S681J	R 802	RS1/10S1R0J
R 424	RS1/10S393J	R 803	RS1/10S473J
R 426	RS1/16S153J	R 804	RD1/4PU471J
R 427	RS1/16S474J	R 806	RS1/8S102J
R 428	RS1/16S681J	R 808	RS1/16S473J
R 432	RS1/8S151J	R 809	RS1/16S473J
R 433	RS1/10S0R0J	R 810	RS1/8S222J
R 443	RS1/10S0R0J	R 811	RS1/8S222J
R 452 (DEH-P7100R)	RS1/8S102J	R 812	RS1/8S222J
R 453 (DEH-P7100R)	RS1/8S511J	R 813	RS1/8S222J
R 454 (DEH-P7100R)	RS1/8S152J	R 814	RS1/8S222J
R 456 (DEH-P7100R)	RS1/16S103J	R 815	RS1/8S222J
R 457 (DEH-P7100R)	RS1/16S103J	R 817	RS1/8S222J
R 458 (DEH-P7100R)	RS1/16S0R0J	R 818	RS1/16S473J
R 459 (DEH-P7100R)	RS1/16S103J	R 819	RS1/16S473J
R 460 (DEH-P7100R)	RS1/16S474J	R 820	RS1/8S102J
R 463 (DEH-P7100R)	RS1/16S0R0J	R 822	RS1/10S104J
R 464 (DEH-P7100R)	RS1/16S103J	R 831	RD1/4PU681J
R 465 (DEH-P7100R)	RS1/16S105J	R 833	RS1/10S361J
R 467 (DEH-P7100R)	RS1/16S103J	R 834	RD1/4PU302J
R 468 (DEH-P7100R)	RS1/16S104J	R 835	RD1/4PU302J
R 469 (DEH-P7100R)	RS1/16S103J	R 836	RS1/10S121J
R 470 (DEH-P7100R)	RS1/16S473J	R 837	RS1/10S0R0J
R 471 (DEH-P7100R)	RS1/16S102J	R 911	RS1/10S0R0J
R 472 (DEH-P7100R)	RS1/16S102J	R 912	RS1/16S511J
R 473 (DEH-P7100R)	RN1/16SE1302D	R 913	RS1/16S104J
R 474 (DEH-P7100R)	RN1/16SE1002D	R 915	RS1/16S102J
R 475 (DEH-P7100R)	RN1/16SE5601D	R 916	RD1/4PU680J
R 476 (DEH-P7100R)	RN1/16SE1001D	R 917	RD1/4PU680J
R 477 (DEH-P7100R)	RS1/16S104J	R 921	RS1/10S1R0J
R 478 (DEH-P7100R)	RS1/16S104J	R 922	RD1/4PU221J
R 481 (DEH-P7100R)	RS1/16S0R0J	R 923	RS1/8S751J

====Circuit Symbol and No.==Part Name		Part No.	====Circuit Symbol and No.==Part Name		Part No.
R	924	RD1/4PU152J	C	235 (DEH-P7100R)	CKSQYB104K16
R	926	RS1/10S223J	C	236 (DEH-P7100R)	CKSQYB104K16
R	931	RS1/10S472J	C	237 (DEH-P7100R)	CKSQYB103K50
R	932	RS1/10S473J	C	240 (DEH-P7100R)	CKSQYB104K16
R	933	RS1/10S103J	C	271 (DEH-P7100R)	CKSYB105K16
R	934	RS1/10S473J	C	272 (DEH-P7100R)	CKSYB105K16
R	935	RS1/10S103J	C	275 (DEH-P7100R)	CKSYB105K16
R	936	RS1/10S103J	C	276 (DEH-P7100R)	CKSYB105K16
R	937	RS1/16S473J	C	278 (DEH-P7100R)	CEJA100M16
R	938	RS1/16S473J	C	279 (DEH-P7100R)	CKSYB684K16
R	939	RS1/16S473J	C	280 (DEH-P7100R)	CEJA100M16
R	940	RD1/4PU102J	C	281 (DEH-P7100R)	CKSYB225K16
R	951	RS1/8S153J	C	282 (DEH-P7100R)	CEJA4R7M35
R	952	RS1/10S472J	C	283 (DEH-P7100R)	CEJA101M16
R	953	RS1/10S472J	C	284 (DEH-P7100R)	CASAQ3R3M16
R	954	RS1/16S102J	C	285 (DEH-P7100R)	CEJA330M25
R	981	RS1/16S223J	C	286 (DEH-P7100R)	CEJA330M25
R	982	RS1/10S473J	C	301	CKSQYB474K16
R	983	RS1/10S103J	C	302	CKSQYB474K16
R	984	RS1/10S473J	C	303	CKSQYB474K16
R	985	RS1/10S102J	C	304	CKSQYB474K16
R	991	RD1/4PU221J	C	305	CKSYB474K16
R	992	RD1/4PU221J	C	306	CKSYB474K16
R	993	RS1/10S472J	C	307	CKSYB474K16
R	994	RS1/10S222J	C	308	CKSYB474K16
CAPACITORS			C	309	CEHAR330M10
C	101	CKSQYB104K16	C	310 3300μF/16V	CCH1330
C	102	CKSQYB104K16	C	311	CKSQYB104K16
C	141 (DEH-P7100R)	CCSQCH101J50	C	312	CEJA100M16
C	142 (DEH-P7100R)	CEJANP100M10	C	313	CKSYB225K16
C	151	CEJA1R0M50	C	314	CEJA100M16
C	152	CEJA1R0M50	C	351	CEJA100M16
C	153	CKSQYB223K50	C	352	CEJA100M16
C	161	CKSQYB123K25	C	353 (DEH-P7100R)	CKSRYB222K50
C	162	CKSQYB123K25	C	354 (DEH-P7100R)	CKSRYB222K50
C	201	CEJA470M16	C	371 (DEH-P7100R)	CEJA100M16
C	202	CKSQYB104K16	C	372 (DEH-P7100R)	CEJA100M16
C	203	CEJA100M16	C	373 (DEH-P7100R)	CKSRYB222K50
C	204	CKSYB105K16	C	374 (DEH-P7100R)	CKSRYB222K50
C	205	CKSYB105K16	C	401	CKSQYB182K50
C	206	CKSYB105K16	C	403	CKSQYB473K25
C	207	CKSYB105K16	C	404	CEJA101M10
C	208	CKSYB224K16	C	405	CCSQCH101J50
C	209	CKSYB224K16	C	406	CEJA220M10
C	210	CKSYB105K16	C	407	CKSQYB103K50
C	211	CKSYB105K16	C	408	CKSQYB223K50
C	212	CKSYB105K16	C	409	CKSQYB223K50
C	213	CKSQYB152K50	C	411	CKSQYB472K50
C	214	CKSQYB152K50	C	412	CKSQYB472K50
C	215	CEJANP4R7M16	C	431	CEJA101M16
C	216	CEJANP4R7M16	C	432	CCSQCH101J50
C	218	CEJANP4R7M16	C	442	CCSQCH101J50
C	219	CEJANP4R7M16	C	451 (DEH-P7100R)	CEJA100M16
C	220	CKSQYB473K25	C	453 (DEH-P7100R)	CKSQYB224K16
C	221	CKSQYB473K25	C	454 (DEH-P7100R)	CKSQYB224K16
C	222	CKSQYB473K25	C	455 (DEH-P7100R)	CKSQYB473K25
C	223	CKSQYB473K25	C	456 (DEH-P7100R)	CKSQYB224K16
C	224	CKSQYB153K50	C	457 (DEH-P7100R)	CKSQYB332K50
C	225	CKSQYB153K50	C	458 (DEH-P7100R)	CCSQCH101J50
C	226	CKSQYB473K25	C	459 (DEH-P7100R)	CKSQYB104K16
C	227	CKSQYB123K50	C	460 (DEH-P7100R)	CCSQCH471J50
C	228	CKSQYB333K50	C	461 (DEH-P7100R)	CKSQYB104K16
C	231 (DEH-P7100R)	CKSQYB104K16	C	463 (DEH-P7100R)	CKSQYB104K16
C	232 (DEH-P7100R)	CKSQYB104K16	C	464 (DEH-P7100R)	CEJA100M16
C	233 (DEH-P7100R)	CKSQYB224K16	C	465 (DEH-P7100R)	CKSQYB334K16
C	234 (DEH-P7100R)	CKSQYB105K16			

====Circuit Symbol and No.==Part Name			Part No.	====Circuit Symbol and No.==Part Name			Part No.
C	467	(DEH-P7100R)	CKSQYB104K16	Q	1908	Transistor	2SC4617
C	468	(DEH-P7100R)	CEJA100M16	D	1901	Diode	DAP202U
C	501		CEJA220M6R3	D	1902	Diode	DAN202U
C	503		CCSQCH270J50	D	1904	Diode	1SS355
C	504		CCSQCH270J50	D	1911	LED	CL170DCD
C	505		CKSQYB104K16	D	1912	LED	CL170PGCD
C	506		CKSQYB471K50	D	1914	LED	CL170UBX
C	507		CKSQYB471K50	D	1916	LED	CL170UBX
C	508		CKSQYB104K16	D	1917	Diode	DAN202U
C	509		CEJA220M6R3	L	1901	Chip-Inductor	LCTA2R2J3225
C	511		CCSQCH101J50	L	1904	Chip-Inductor	LCTA2R2J3225
C	512		CCSQCH101J50	L	1905	Inductor	LCTA220J2520
C	513		CCSQCH101J50	L	1906	Inductor	CTF1421
C	601		CKSQYB104K16	L	1907	Inductor	CTF1421
C	602		CKSQYB103K50	L	1908	Inductor	LCTA220J2520
C	603		CEJA4R7M35	L	1909	Inductor	CTF1484
C	604		CCSQCH270J50	L	1910	Inductor	CTF1410
C	605		CCSQCH270J50	L	1911	Inductor	CTF1410
C	606		CKSQYB105K16	TH	1901	Thermistor	CCX1037
C	607		CKSQYB103K50	X	1901	Ceramic Resonator 15.62MHz	CSS1458
C	609		CKSQYB103K50	S	1901	Push Switch	CSG1113
C	611		CCSQCH101J50	S	1903	Spring Switch	CSN1052
C	612		CKSQYB103K50	S	1904	Spring Switch	CSN1051
C	613		CKSRYB103K50	S	1906	Push Switch	CSG1113
C	801		CKSYB105K16	S	1907	Push Switch	CSG1113
C	802		CKSQYB104K16	S	1908	Push Switch	CSG1113
C	803		CEJA470M10	S	1909	Push Switch	CSG1113
C	804		CCSQCH101J50	S	1910	Push Switch	CSG1113
C	805		CCSCH101J50	S	1911	Push Switch	CSG1113
C	807		CKSQYB102K50	S	1912	Push Switch	CSG1113
C	831		CEJA470M16	S	1913	Push Switch	CSG1113
C	832		CEJA101M16	S	1914	Push Switch	CSG1113
C	833		CKSQYB104K16	S	1915	Push Switch	CSG1113
C	834		CCSQCH331J50	S	1916	Push Switch	CSG1113
C	835		CEJA470M25	S	1917	Push Switch	CSG1113
C	836	4.7μF/25V	CCG1111	S	1918	Push Switch	CSG1113
C	837		CKSQYB473K25	S	1919	Push Switch	CSG1113
C	838		CKSYB224K25	S	1920	Push Switch	CSG1113
C	901		CKSYB473K50	S	1922	Push Switch	CSG1113
C	911		CEHAT102M16	S	1923	Push Switch	CSG1113
C	912		CKSQYB473K25	S	1924	Push Switch	CSG1113
C	913		CKSQYB103K50	S	1930	Switch	CSD1040
C	914		CEJA470M10	VR	1902	Semi-fixed 22kΩ(B)	CCP1231
C	916		CKSQYB102K50			OEL Unit	MXR8004
C	921	330μF/10V	CCH1181	RESISTORS			
C	922		CKSQYB103K50	R	1901		RS1/16S154J
C	923		CEJA101M16	R	1902		RS1/16S473J
C	931		CKSYB105K16	R	1903		RAB4C101J
C	981		CEJA220M16	R	1906		RS1/16S102J
C	991		CKSQYB473K25	R	1907		RS1/16S473J
C	992		CKSQYB102K50	R	1908		RA3C101J
C	993		CEHAR101M10	R	1909		RS1/16S101J
<div> <div>C</div> <div>Unit Number : CWM7269</div> <div>Unit Name : Keyboard Unit</div> </div>							RAB4C101J
							RAB4C101J
							RAB4C101J
							RAB4C101J
							RAB4C101J
							RAB4C101J
							RAB4C101J
							RAB4C101J
							RAB4C101J
							RAB4C101J
MISCELLANEOUS							RAB4C101J
IC	1901	IC	PD5554A	R	1913		RAB4C101J
IC	1902	IC	PD8063A	R	1914		RAB4C101J
IC	1903	HIC-Module	RS-140	R	1915		RAB4C101J
IC	1904	IC	PD5536A	R	1918		RS1/16S101J
Q	1901	Transistor	2SB710A	R	1921		RAB4C102J
Q	1902	Transistor	DTC114EU	R	1922		RS1/10S121J
Q	1903	Transistor	2SB710A	R	1923		RS1/10S2R2J
Q	1904	Transistor	DTC114EU	R	1924		RS1/8S222J
Q	1905	Transistor	DTC114EU	R	1925		RS1/8S222J
Q	1907	Transistor	2SD1664	R	1928		RS1/16S102J

====Circuit Symbol and No.===Part Name	Part No.
R 1929	RS1/16S102J
R 1930	RS1/10S222J
R 1931	RS1/16S101J
R 1932	RS1/16S333J
R 1933	RS1/16S623J
R 1934	RS1/16S393J
R 1935	RS1/16S362J
R 1951	RS1/16S473J
R 1952	RS1/10S222J
R 1953	RS1/16S473J
R 1954	RS1/10S222J
R 1955	RS1/10S472J
R 1960	RS1/8S910J
R 1961	RS1/10S560J
R 1962	RS1/10S560J
R 1963	RS1/10S560J
R 1964	RS1/10S560J
R 1965	RS1/10S560J
R 1989	RS1/16S222J
R 1990	RS1/16S472J
R 1991	RS1/16S101J
R 1992	RS1/16S101J
R 1993	RS1/16S101J
R 1994	RS1/16S101J
R 1995	RS1/16S101J
R 1996	RS1/16S101J
R 1997	RS1/16S473J
R 1998	RS1/16S103J

CAPACITORS

C 1901	CKSYB105K16
C 1902	CKSRYB103K50
C 1903	CSZSR100M16
C 1904	CSZSR100M6R3
C 1906	CKSRYB103K50
C 1907	CCSCH101J50
C 1908	CKSQYB473K16
C 1913	CSZSR100M16
C 1919	CKSRYB104K16
C 1920	CKSRYB104K16
C 1921	CKSRYB104K16
C 1922	CKSRYB104K16
C 1926	CKSQYB104K25
C 1927	CKSQYB104K25
C 1928	CKSQYB104K25
C 1929	CKSRYB104K16
C 1936	CKSQYB104K25
C 1937	CKSRYB104K16
C 1938	CKSRYB104K16
C 1940	CCSCH101J50
C 1943 4.7μF/25V	CCG1111
C 1945	CKSQYB104K50
C 1946	CKSQYB104K50
C 1947	CKSRYB103K50
C 1948	CKSRYB103K50
C 1949	CCSQCH101J50

G Unit Number : CWX2424
(DEH-P7100R/X1N/EW)
Unit Name : ASL Unit

MISCELLANEOUS

IC 4501	IC	NJM4558MD
IC 4502	IC	NJM4558MD
Q 4501	Transistor	2SC2458
D 4501	Diode	1SS355
D 4502	Diode	UDZ4R3(B)

====Circuit Symbol and No.===Part Name	Part No.
D 4503	Diode
VR 4501	Semi-fixed 10kΩ(B)
MIC4501	Microphone

RESISTORS

R 4501	RS1/10S222J
R 4502	RS1/10S683J
R 4503	RS1/10S103J
R 4504	RS1/10S472J
R 4505	RS1/10S471J
R 4506	RS1/8S682J
R 4507	RS1/10S684J
R 4508	RS1/10S562J
R 4509	RS1/10S391J
R 4510	RS1/8S472J
R 4511	RS1/10S472J
R 4512	RS1/10S472J
R 4513	RS1/10S153J
R 4514	RS1/10S153J
R 4515	RS1/8S102J
R 4517	RS1/10S270J

CAPACITORS

C 4502	CEJA470M10
C 4503	CEJAR68M50
C 4504	CEJA100M16
C 4505	CEJA470M10
C 4506	CEJA470M16
C 4507	CEJA100M16
C 4508	CEJANP220M10
C 4509	CEJAR68M50
C 4510	CEJANP100M10
C 4511	CKSQYB823K25
C 4512	CCSQCH101J50
C 4513	CEJA101M10

F Unit Number : CWM7157
Unit Name : Panel PCB Unit

D 920	LED	CL220PGC
D 921	LED	CL220PGC
S 930	Push Switch(EJECT)	CSG1112

D Unit Number : CWX2419
Unit Name : Control Unit

MISCELLANEOUS

IC 201	IC	UPD63711GC
IC 301	IC	BA5985FM
IC 701	IC	BA05SFP
Q 101	Transistor	2SB1132
D 801	Chip LED	CL200IRX
D 802	Chip LED	CL200IRX
X 201	Ceramic Resonator 16.934MHz	CSS1456
S 801	Spring Switch(HOME)	CSN1051
S 802	Spring Switch(CLAMP)	CSN1052

RESISTORS

R 101	RS1/8S120J
R 102	RS1/8S100J
R 103	RS1/16S222J
R 201	RS1/16S104J
R 202	RS1/16S103J
R 203	RS1/16S393J
R 204	RS1/16S103J
R 205	RS1/16S103J
R 206	RS1/16S182J
R 207	RS1/16S123J

====Circuit Symbol and No.==Part Name	Part No.
R 302	RS1/16S153J
R 303	RS1/16S103J
R 501	RS1/16S102J
R 502	RA4C681J
R 601	RS1/16S102J
R 602	RS1/16S102J
R 605	RS1/16S0R0J
R 606	RS1/16S0R0J
R 801	RS1/8S751J
R 803	RS1/8S751J
R 901	RS1/16S681J
R 903	RS1/16S0R0J
R 904	RS1/16S681J
R 905	RS1/16S681J

CAPACITORS

C 101	CKSRYB102K50
C 102	CKSRYB104K16
C 103	CEV101M6R3
C 104	CEV470M6R3
C 105	CKSQYB334K16
C 106	CKSQYB334K16
C 107	CKSQYB334K16
C 201	CKSRYB104K16
C 202	CKSRYB471K50
C 203	CKSRYB104K16
C 205	CEV101M6R3
C 206	CKSRYB104K16
C 207	CKSRYB104K16
C 208	CKSRYB104K16
C 209	CKSRYB104K16
C 210	CKSRYB332K50
C 211	CKSRYB104K16
C 212	CKSRYB104K16
C 213	CKSRYB392K50
C 214	CKSRYB104K16
C 215	CKSRYB104K16
C 216	CCSRCJ3R0C50
C 217	CCSRCH270J50
C 218	CKSRYB104K16
C 219	CCSRCH181J50
C 220	CCSRCH510J50
C 221	CKSRYB682K25
C 222	CEV220M6R3
C 223	CKSRYB103K25
C 224	CKSRYB224K10
C 301	CEV101M10
C 603	CCSOSL152J50
C 604	CCSOSL152J50
C 702	CCH1349
C 703	CKSQYB334K16

E Unit Number : CWX2271
Unit Name : Photo Unit(S8)

Q 1	Photo-transistor	CPT230SX-TU
Q 2	Photo-transistor	CPT230SX-TU

Miscellaneous Parts List

M 1	Pickup Unit(Service)(P8)	CXX1285
M 1	Motor Unit(CARRIAGE)	CXB2190
M 2	Motor Unit(LOADING)	CXB2195
M 3	Motor Unit(SPINDLE)	CXB2562

6. ADJUSTMENT

6.1 CD ADJUSTMENT

1) Precautions

- This unit uses a single power supply (+5V) for the regulator. The signal reference potential, therefore, is connected to REFO(approx. 2.5V) instead of GND.

If REFO and GND are connected to each other by mistake during adjustments, not only will it be impossible to measure the potential correctly, but the servo will malfunction and a severe shock will be applied to the pick-up. To avoid this, take special note of the following.

Do not connect the negative probe of the measuring equipment to REFO and GND together. It is especially important not to connect the channel 1 negative probe of the oscilloscope to REFO with the channel 2 negative probe connected to GND.

Since the frame of the measuring instrument is usually at the same potential as the negative probe, change the frame of the measuring instrument to floating status.

If by accident REFO comes in contact with GND, immediately switch the regulator or power OFF.

- Always make sure the regulator is OFF when connecting and disconnecting the various filters and wiring required for measurements.
- Before proceeding to further adjustments and measurements after switching regulator ON, let the player run for about one minute to allow the circuits to stabilize.
- Since the protective systems in the unit's software are rendered inoperative in test mode, be very careful to avoid mechanical and /or electrical shocks to the system when making adjustment.
- Disc detection during loading and eject operations is performed by means of a photo transistor in this unit. Consequently, if the inside of the unit is exposed to a strong light source when the outer casing is removed for repairs or adjustment, the following malfunctions may occur.
 - *During PLAY, even if the eject button is pressed, the disc will not be ejected and the unit will remain in the PLAY mode.
 - *The unit will not load a disc.

When the unit malfunctions this way, either re-position the light source, move the unit or cover the photo transistor.

2) Test Mode

This mode is used for adjusting the CD mechanism module of the device.

- Test mode starting procedure
Reset while pressing the **4** and **6** keys together.
- Test mode cancellation
Switch ACC, back-up OFF.
- After pressing the EJECT key, do not press any other key until the disk is completely ejected.
- If the ► or ◀ key is pressed while focus search is in progress, immediately turn the power off (otherwise the actuator may be damaged due to adhesion of the lenses).
- Jump operation of TRs other than 100TR continues after releasing the key. CRG move and 100TR jump operations are brought into the "Tracking close" status when the key is released.
- Powering Off/On resets the jump mode to "Single TR (91)", the RF AMP gain setting to 0 dB, and the automatic adjustment value to the initial value.

6.2 CHECKING THE GRATING AFTER CHANGING THE PICKUP UNIT

• Note :

The grating angle of the PU unit cannot be adjusted after the PU unit is changed. The PU unit in the CD mechanism module is adjusted on the production line to match the CD mechanism module and is thus the best adjusted PU unit for the CD mechanism module. Changing the PU unit is thus best considered as a last resort. However, if the PU unit must be changed, the grating should be checked using the procedure below.

• Purpose :

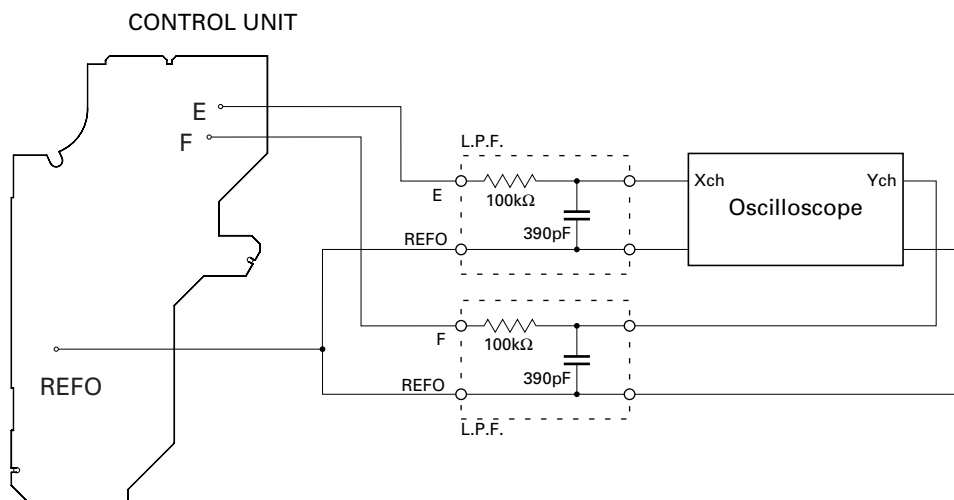
To check that the grating is within an acceptable range when the PU unit is changed.

• Symptoms of Mal-adjustment :

If the grating is off by a large amount symptoms such as being unable to close tracking, being unable to perform track search operations, or taking a long time for track searching.

• Method :

- | | |
|-----------------------|----------------------------|
| • Measuring Equipment | • Oscilloscope, Two L.P.F. |
| • Measuring Points | • E, F, REFOUT |
| • Disc | • ABEX TCD-784 |
| • Mode | • TEST MODE |



• Checking Procedure

1. In test mode, load the disc and switch the 5V regulator on.
2. Using the ► and ◄ buttons, move the PU unit to the innermost track.
3. Press key **3** to close focus, the display should read "91". Press key **2** to implement the tracking balance adjustment the display should now read "81". Press key **3** 2 times. The display will change, returning to "81" on the fourth press.
4. As shown in the diagram above, monitor the LPF outputs using the oscilloscope and check that the phase difference is within 75°. Refer to the photographs supplied to determine the phase angle.
5. If the phase difference is determined to be greater than 75° try changing the PU unit to see if there is any improvement. If, after trying this a number of times, the grating angle does not become less than 75° then the mechanism should be judged to be at fault.

• Note

Because of eccentricity in the disc and a slight misalignment of the clamping center the grating waveform may be seen to "wobble" (the phase difference changes as the disc rotates). The angle specified above indicates the average angle.

• Hint

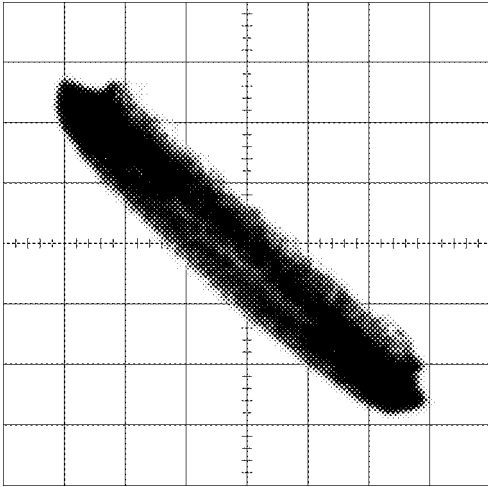
Reloading the disc changes the clamp position and may decrease the "wobble".

Grating waveform

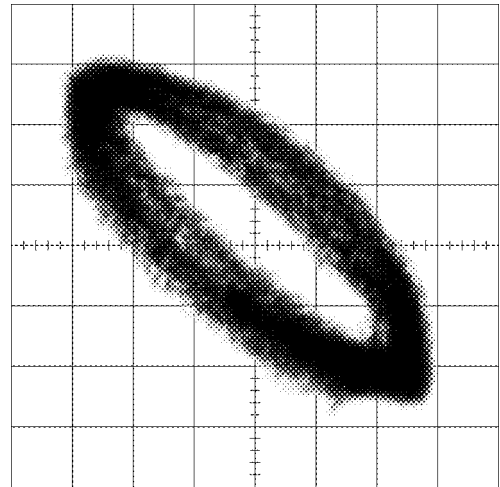
Ech → Xch 20mV/div, AC

Fch → Ych 20mV/div, AC

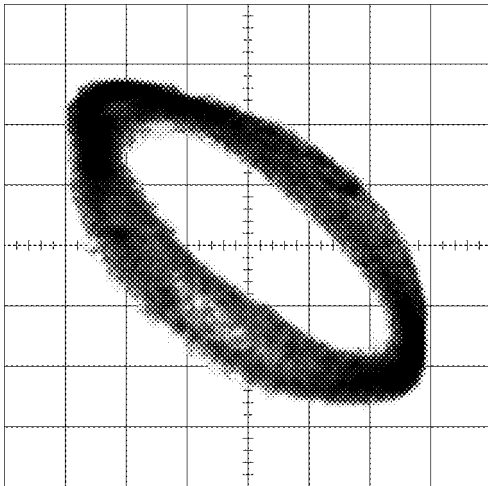
0°



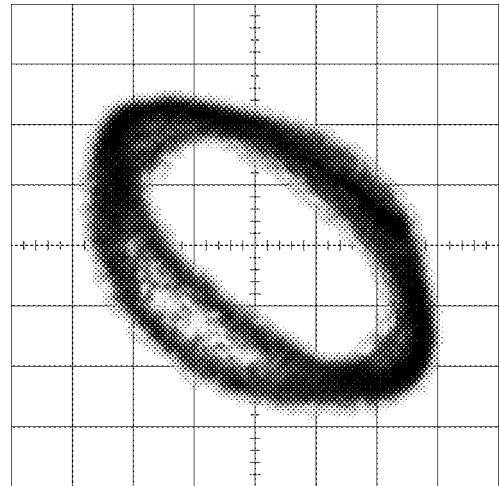
30°



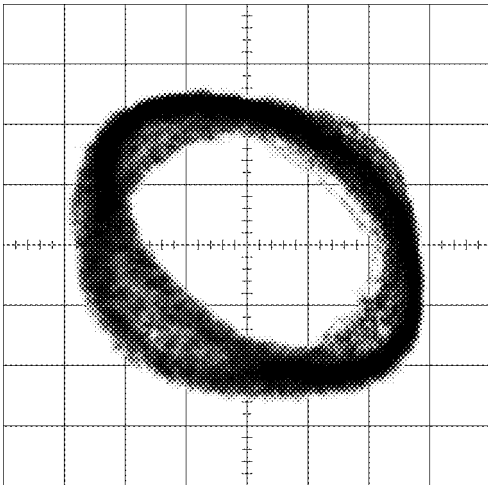
45°



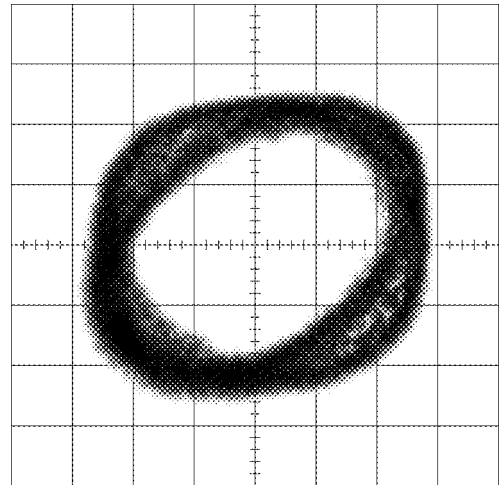
60°



75°

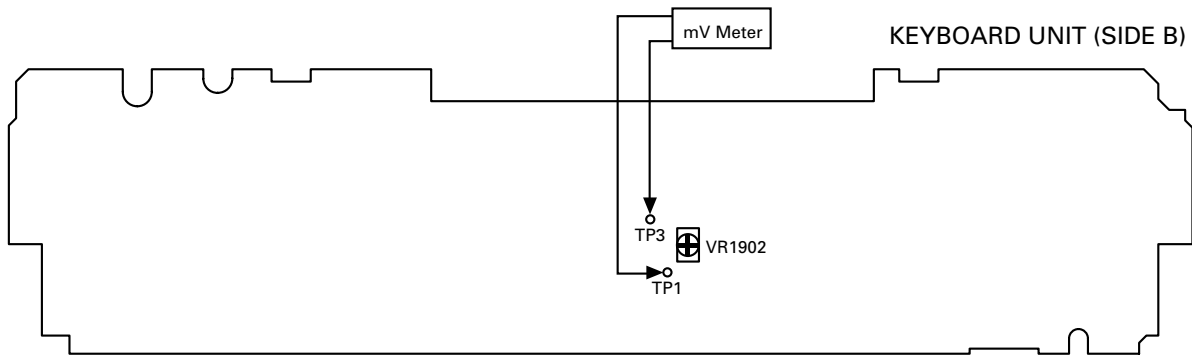


90°



6.3 OEL UNIT ADJUSTMENT

● Adjustment point



<When the OEL Unit has been replaced>

1. ACC ON while pressing the 1 and 3 keys together after RESET START.
 2. Pressing the 1 and 3 keys together after SOURCE ON. (All indication lighting mode)
 3. Use VR1902 to adjust the difference in potential between TP1 and TP3(GND) to 1.07V.
- All indication lighting mode cancellation
Switch ACC, back-up OFF.

7. GENERAL INFORMATION

7.1 DIAGNOSIS

7.1.1 TEST MODE

● Error Messages

If a CD is not operative or stopped during operation due to an error, the error mode is turned on and cause(s) of the error is indicated with a corresponding number. This arrangement is intended at reducing nonsense calls from the users and also for facilitating trouble analysis and repair work in servicing.

(1) Basic Indication Method

1) When SERRORM is selected for the CSMOD (CD mode area for the system), error codes are written to DMIN (minutes display area) and DSEC (seconds display area). The same data is written to DMIN and DSEC. DTNO remains in blank as before.

2) Head unit display examples

Depending on display capability of LCD used, display will vary as shown below. xx contains the error number.

8-digit display	6-digit display	4-digit display
ERROR-xx	ERR-xx	E-xx
	OR	
	Err-xx	

(2) Error Code List

Code	Class	Displayed error code	Description of the code and potential cause(s)
10	Electricity	Carriage Home NG	CRG can't be moved to inner diameter. CRG can't be moved from inner diameter. → Failure on home switch or CRG move mechanism.
11	Electricity	Focus Servo NG	Focusing not available. → Stains on rear side of disc or excessive vibrations on REWRITABLE.
12	Electricity	Spindle Lock NG	Spindle not locked. Sub-code is strange (not readable). → Failure on spindle, stains or damages on disc, or excessive vibrations.
		Subcode NG	A disc not containing CD-R data is found. Turned over disc are found, though rarely.
		RF AMP NG	→ Failure on home switch or CRG move mechanism. An appropriate RF AMP gain can't be determined. → CD signal error.
17	Electricity	Setup NG	APC protection doesn't work. Focus can be easily lost. → Damages or stains on disc, or excessive vibrations.
30	Electricity	Search Time Out	Failed to reach target address. → CRG tracking error or damages on disc.
A0	System	Power Supply NG	Power (VD) is ground faulted. → Failure on SW transistor or power supply (failure on connector).

Remarks: Mechanical errors are not displayed (because a CD is turned off in these errors).

Unreadable TOC does not constitute an error. An intended operation continues in this case.

A newly designed head unit must conform to the example given above.

Upper digits of an error code are subdivided as shown below:

1x: Setup relevant errors, 3x: Search relevant errors, 3x: Search relevant errors, Ax: Other errors.

● New Test Mode

S-CD plays the same way as before.

If an error such as off focus, spindle unlocking, unreadable sub-code, or sound skipping occurs after setup, its cause and time occurred (in absolute time) are displayed.

During setup, operational status of the control software (internal RAM: CPOINT) is displayed.

These displays and functions are prepared for enhancing aging in the servicing and efficiency of trouble analysis.

(1) Shifting to the New Test Mode

- ① Turn on the current test mode by starting the reset from the key.
 - ② Select S-CD for the source through the specified procedure including use of the [SOURCE] key, and inserting the disc. Then, press the [Jump Mode Selector] key while maintaining the regulator turned off.
 - ③ After the above operations, the new test mode remains on irrespective of whether the S-CD is turned on or off.
- You can reset the new test mode by turning on the reset start.

* With some products, the new test mode can be reset through the same operations as that employed for shifting to the STBY mode (while maintaining the Acc turned off).

(2) Key Correspondence

Key (Example)	Test mode		New test mode	
	Power Off	Power On	In-play	Error Production
BAND	To power on (offset adjustment performed)	To power off	—	Time/Err.No. switching
▶	—	FWD-Kick	FF/TR+	—
◀	—	REV-Kick	REV/TR-	—
1	—	T.Close (AGC performed) /parameter display switching	Scan	—
2	RF AMP gain switching	Parameter display switching /T.BAL adjustment/T.Open	Mode	—
3	To power on (offset adjustment not performed)	F.Close/RF AGC/F.T.AGC	—	—
6	—	F.Mode switching /T.Close (no AGC)/Jump switching	Auto/Manu	T.No./Time switching

Note: Eject and CD on/off is performed in the same procedure as that for the normal mode.

(3) Cause of Error and Error Code

Code	Class	Contents	Description and cause
40	Electricity	Off focus detected.	FOK goes low. → Damages/stains on disc, vibrations or failure on servo.
41	Electricity	Spindle unlocked.	FOK = Low continued for 50 msec. → Damages/stains on disc, vibrations or failure on servo.
42	Electricity	Sub-code unreadable.	Sub-code was unreadable for 50 msec. → Damages/stains on disc, vibrations or failure on servo.
43	Electricity	Sound skipping detected.	Last address memory function was activated. → Damages/stains on disc, vibrations or failure on servo.

Note: Mechanical errors during aging are not displayed.

The error codes should be indicated in the same way as in the normal mode.

(4) Display of Operational Status (CPOINT) during Setup

Status No.	Contents	Protective action
00	CD+5V ON process in progress.	None
01	Servo LSI initialization (1/3) in progress.	None
02	Servo LSI CRAM initialization in progress.	None
03	Servo LSI initialization (2/3) in progress.	None
04	Offset adjustment (1/3) in progress.	None
05	Offset adjustment (2/3) in progress.	None
06	Offset adjustment (3/3) in progress.	None
07	FZD adjustment in progress.	None
08	Servo LSI initialization (3/3) in progress.	None
10	Carriage move to home position started.	None
11	Carriage move to home position started.	None
12	Carriage is moving toward inner diameter.	Specified 10 seconds has been passed or failure on home switch.
13	Carriage is moving toward outer diameter.	Specified 10 seconds has been passed or failure on home switch.
14	Carriage outer kick in progress.	None
15	Carriage outer diameter feed (1 second) in progress.	None
20	Servo close started.	None
21	Pre-processing for focus search started.	None
22	Spindle rotation and focus search started.	None
23	Waiting for focus close (XSI=Low).	Specified focus search time has been passed.
24	Standing by after focus close is over.	Specified focus search time has been passed.
25	Focus search preprocessing is in progress while setup protection is turned on.	None
26	Focus search preprocessing is in progress while focus recovery is turned on.	None
27	Wait time after focus close is set up.	Off focus.
28	Standing by after focus close is over.	Off focus.
29	Setup (1/2) before T balance adjustment is started.	Off focus.
30	Setup (2/2) before T balance adjustment is started.	Off focus.
31	T balance adjustment started.	Off focus.
32	T balance adjustment (1/2).	Off focus.
33	T balance adjustment (2/2).	Off focus.
34	Waiting for spindle rotation to end. Spindle rough servo.	Off focus.
35	Standing by after spindle rough servo is over.	Off focus.
36	RF AGC started.	Off focus.
37	RF AGC started.	Off focus.
38	RF AGC ending process in progress.	Off focus.
39	Tracking close in progress.	Off focus.
40	Standing by after tracking is closed. Carriage closing in progress.	Off focus.
41	Focus/tracking AGC started.	Off focus.
42	Focus AGC started.	Off focus.
43	Focus AGC in progress.	Off focus.
44	Tracking AGC in progress.	Off focus.
45	Standing by after focus/tracking AGC are over.	Off focus.
46	Spindle processes applicable servo.	Off focus.
47	Check for servo close is started.	Off focus.
48	Check of LOCK pin started.	Off focus or spindle not locked.
49	RF AGC started.	Off focus.
50	RF AGC in progress.	Off focus.
51	Standing by after RF AGC is over.	Off focus.

(5) Display Examples

1) During Setup (When status no. = 11)

TRK No.	MIN.	SEC.
11	11'	11"

2) During Operation (TOC read, TRK search, Play, FF and REV)

The same as in the normal mode.

3) When a Protection Error Occurred

Switch to the following displays (A) and (B) using the [BAND] switch:

(A) Error occurrence timing display in absolute time.

An example: Error occurred in 12th tune at 34'56" in absolute time.

TRK No.	MIN.	SEC.
12	34'	56"

(B) Error No. display

An example: Error #40 (Off focus is detected)

ERROR-40

7.1.2 DISASSEMBLY

● Removing the Case Unit (not shown)

Remove the Case Unit.

● Removing the CD Mechanism Module (Fig.1)

- ➡ 1 Remove the four screws.

Disconnect the connector and then remove the CD Mechanism Module (not shown).

● Removing the Grille Assy (Fig.1)

- ➡ 2 Remove the two screws.

Disconnect the two stoppers and then remove the Grille Assy (not shown).

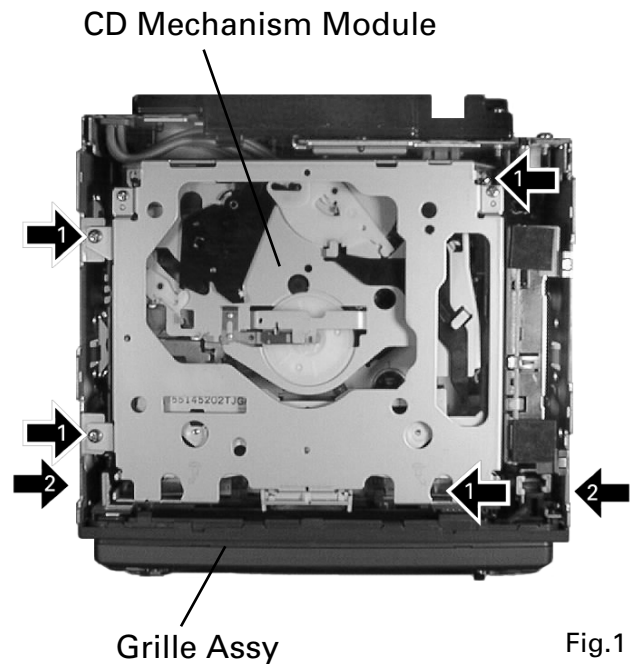


Fig.1

● Removing the Tuner Amp Unit (Fig.2)

- ➡ 1 Remove the three screws.
- ➡ 2 Remove the two screws.
- ➡ 3 Remove the screw.
- ➡ 4 Unbend the tabs at four locations indicated by arrow until straight.
Remove the Tuner Amp Unit.

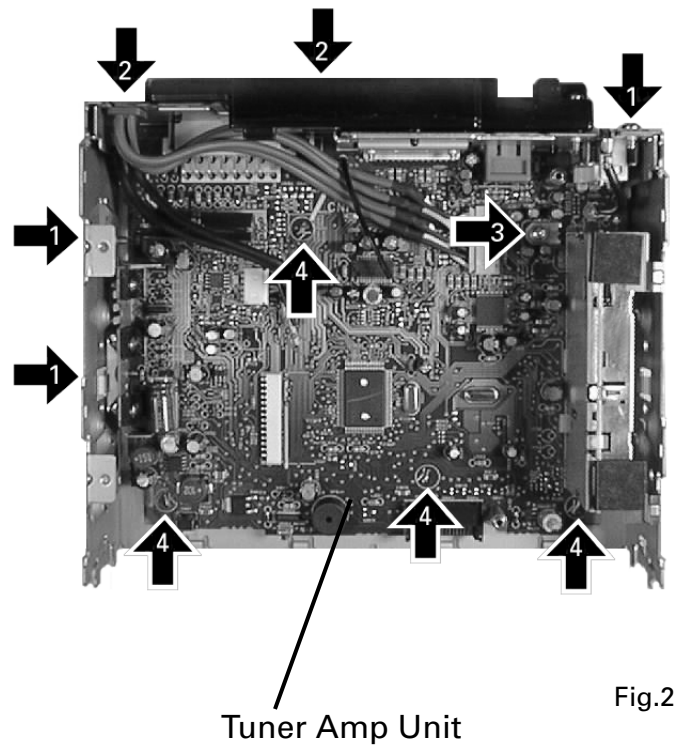


Fig.2

● Removing the OEL Unit

1. Apply hot air to the cable pins for the anode terminal using a blower used for removing a flat-packaged IC or something like that. When all the pins are peeling off from the P.C.board, pinch the cable with a pair of tweezers and remove it slowly from the P.C.board. (Fig.3)

* Be careful not to remove other electrical parts when you use a blower. Especially, when hot air is appropriated to the VR1902 too much, the volume will destroy.

* Flexible cable may not remove easily by transforming the Bosses by the hot air of the Blower.

2. Five tabs are extended until becoming straight in the direction of the arrow and then remove the Holder. (Fig.3)
3. Slowly set up the OEL Unit. At this time, the stress is prevented from hanging to flexible cable in the Cathode terminal. (Fig.4)
4. The Cathode terminal is removed according to the procedure same as the Anode terminal, and the OEL Unit is removed. (Fig.4)
5. Remove the Holder. (Remove after removing the Cathode terminal without fail.) (Fig.4)

● Installing the OEL Unit

1. Install the Holder in the OEL Unit. (Fig.5)
2. When soldering the flexible cable for the Cathode terminal on the P.C.board, use a pair of tweezers. First, insert the tips of tweezers into 2 holes in the flexible cable, then into the 2 holes in the P.C.board. (Fig.5)
3. Position the flexible cable on the P.C.board so that their lands touch each other. (Fig.5)
4. Apply solder to each pin of the flexible cable. (Fig.5)

* Appropriate soldering iron lightly so that the stress should not hang to Flexible cable.

5. Lay down the OEL Unit. (Fig.5)
6. Install the Holder. (Fig.3)
7. When soldering the flexible cable for the Anode terminal on the P.C.board, first, insert the Bosses on the P.C.board into the 2 holes in the flexible cable. Then, take the same procedures 2 and 3 as that for the Cathode terminal to solder the cable pins. (Fig.3)

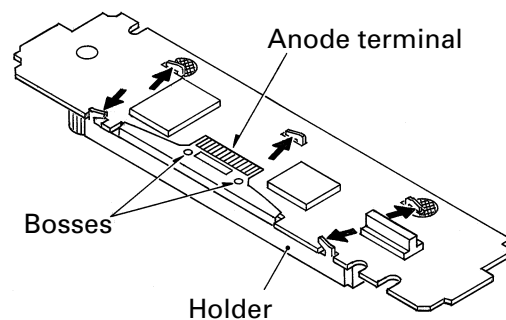


Fig.3

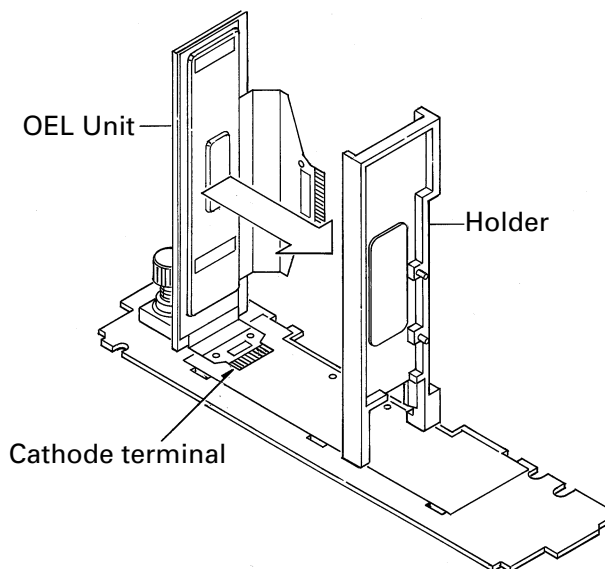


Fig.4

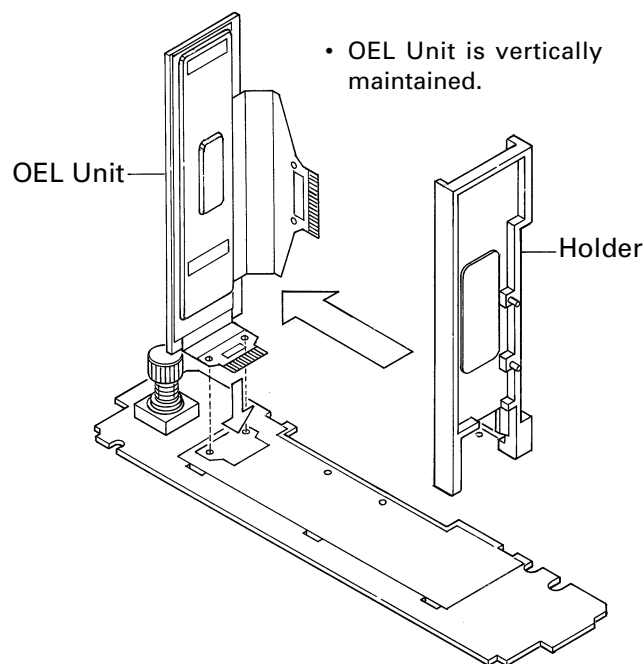
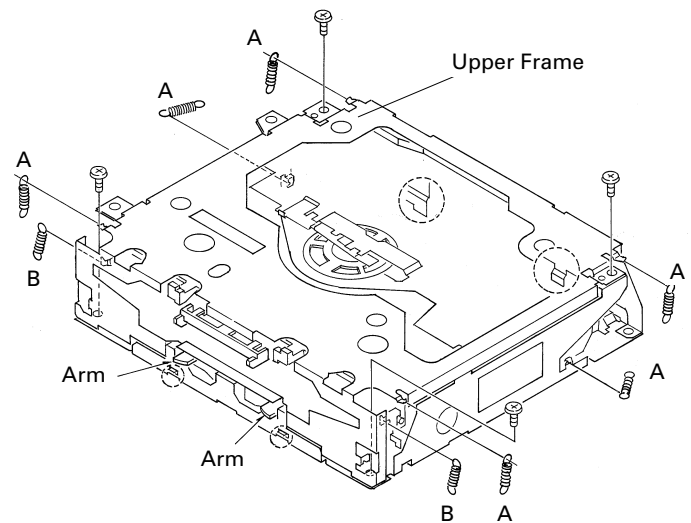


Fig.5

● Removing the Upper Frame

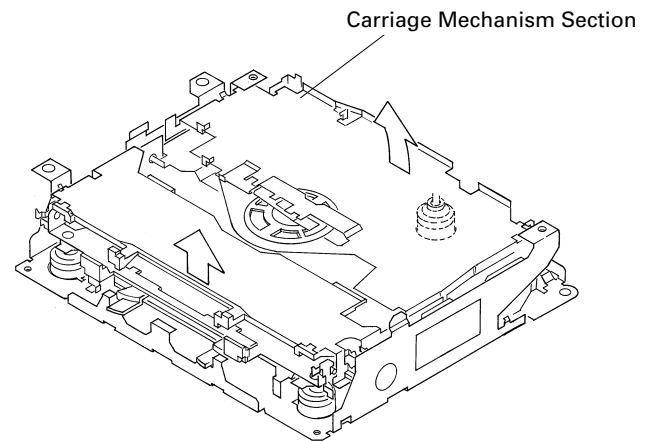
1. Remove six Springs A, two Springs B and four Screws.
2. Remove two Tabs situated on rear side of the Upper Frame, remove two Arms on the front side, then remove two Tabs on the front side.



● Removing the Carriage Mechanism

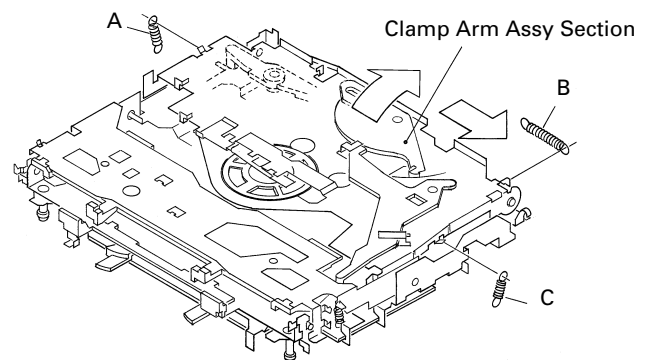
1. Disengage the Carriage Mechanism from the two dampers situated in the front side by driving it up, then disengage and remove the mechanism from the one damper by driving it up aslant into front side direction.

Note : When assembling the Carriage Mechanism, coat the dampers with alcohol prior to the assembly.



● Removing the Clamp Arm Assy

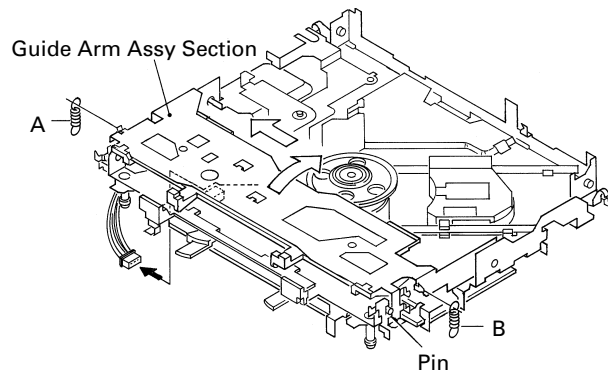
1. Remove a Spring A, a B and a Spring C.
2. Drive the Clamp Arm Assy up into rear side direction, then disengage the arm from its current position. Finally, drive the assembly approximately 45 degrees upward, then slide the assembly toward right side to remove it.



● Removing the Guide Arm Assy

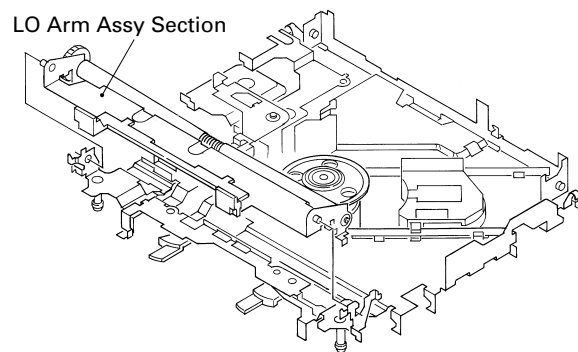
1. Remove a connector, a spring A and B
2. Drive the Guide Arm Assy up aslant into rear side direction, then remove it from a Pin. Finally, drive the assembly approximately 45 degrees upward, then slide the assembly toward left side to remove it.

Note : When assembling the guide arm assembly, route the cord inside the assembly. In this operation, care must be exercised so that cord may be caught by the gear.



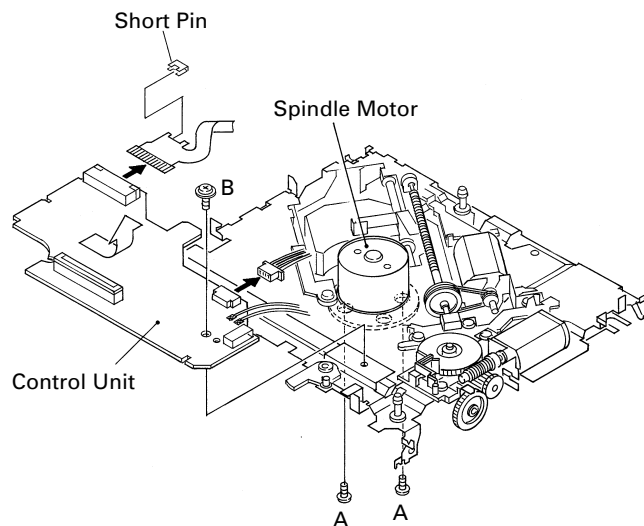
● Removing the LO Arm Assy

1. Remove two Pins to dismount the LO Arm Assy.



● Removing the Control Unit and the Spindle Motor

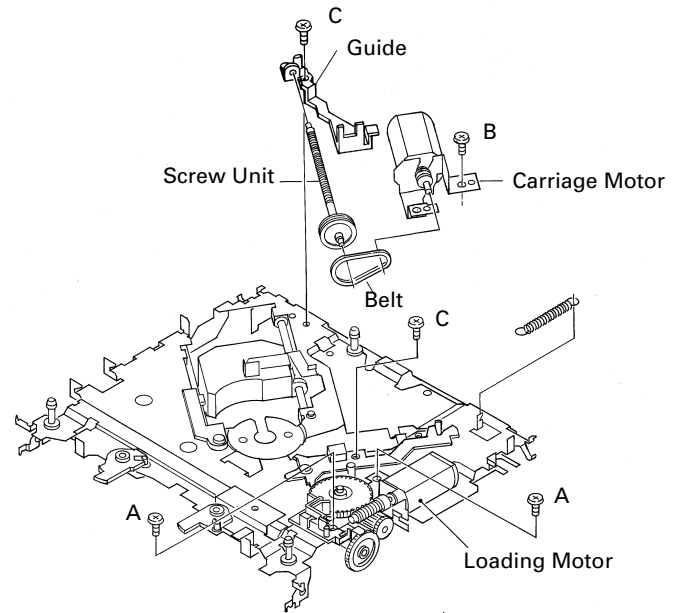
1. Remove from the connector after mounting the short pin on the flexible PCB of the pickup unit.
2. Remove two Soldered joints, then remove two Screws A.
3. Remove two connectors and a Screw B.
4. Disengage the Control Unit from two Tabs, then dismount the unit by sliding it toward left.
5. Dismount the Spindle Motor.



● Removing the Loading Motor and Carriage Motor

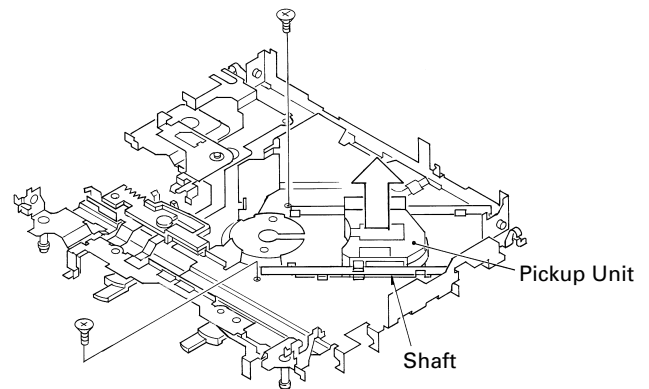
1. Remove the Spring and two Screws A.
2. Dismount the Loading Motor.
3. Remove the Belt, a Screw B, two Screws C, a Guide and a Screw Unit.
4. Dismount the Carriage Motor.

Note : When assembling the Belt, use care so that it may not be contaminated by grease.



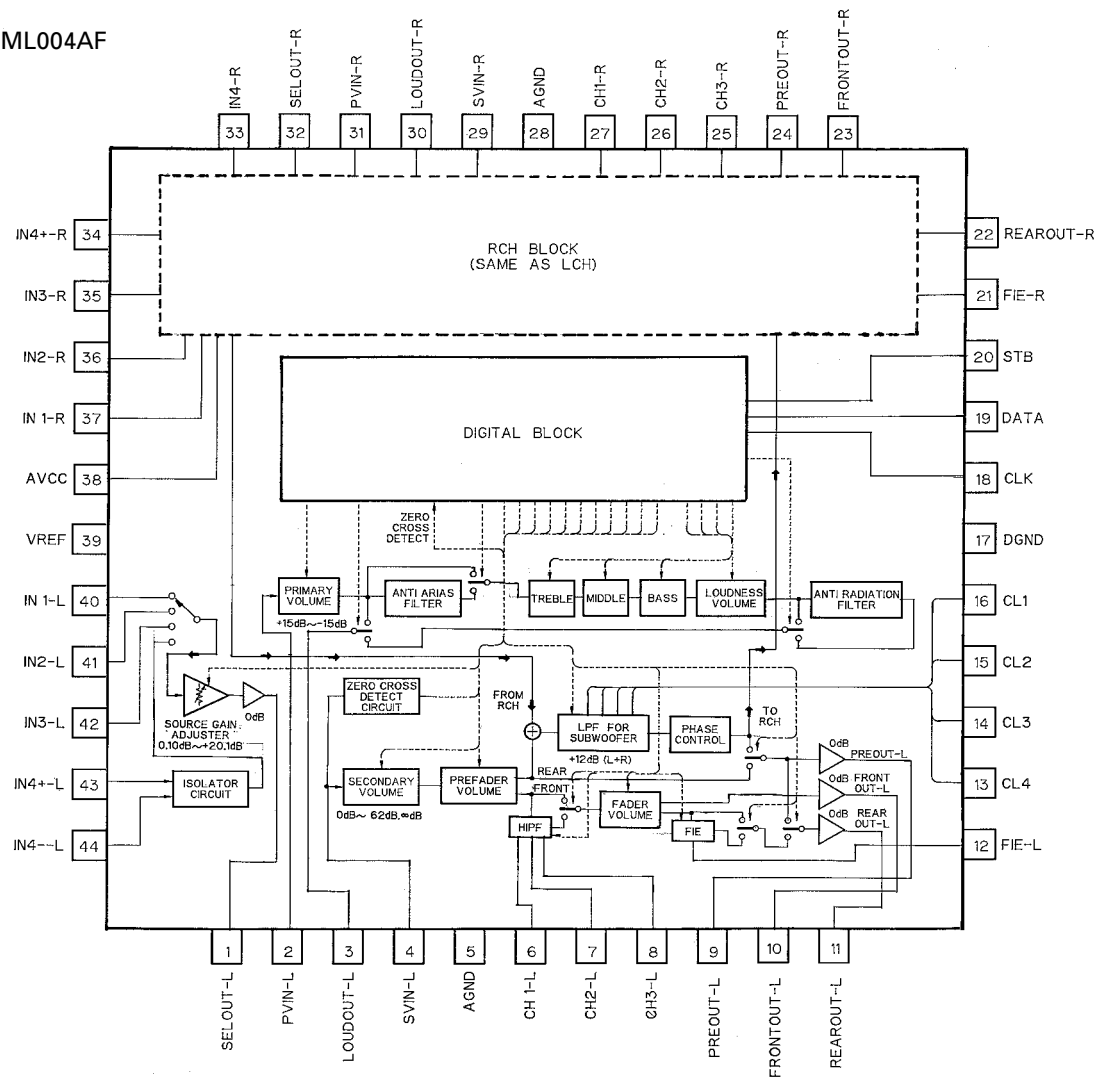
● Removing the Pickup Unit

1. Remove two Screws and a Shaft.
2. Dismount the Pickup Unit.

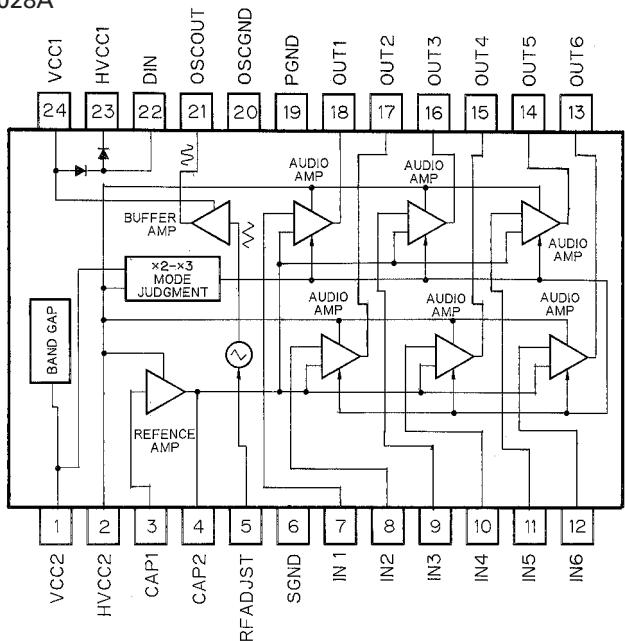


7.2 IC

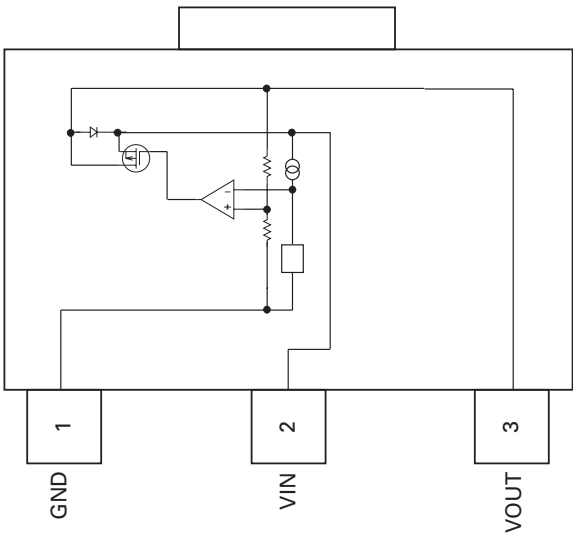
PML004AF



PA2028A



S-81250SGUP

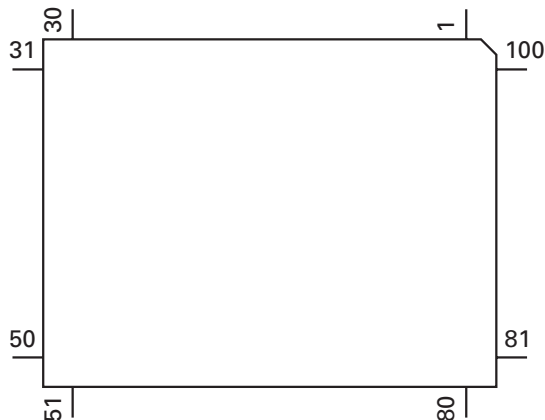


● Pin Functions (PE5098A)

Pin No.	Pin Name	I/O	Function and Operation
1	SWVDD	O	Grille chip enable output
2	DSNS	I	Grille detach sense input
3	ROT1	I	Rotary encoder input 1
4	ROT0	I	Rotary encoder input 0
5	TESTIN	I	Test program mode input
6	CSENS	I	Flap open/close sense input
7	TSTD	O	CD TEXT strobe output
8	TSCK	O	CD TEXT serial clock output
9	TSI	I	CD TEXT serial data input
10	TSO	O	CD TEXT serial data output
11	RESET	I	Reset input
12	XT2		Not used
13	XT1	I	Connect to VSS
14	VSS		GND
15	X2		Crystal oscillator connection pin
16	X1	I	Crystal oscillator connection pin
17	REGOFF		Regulator operation specification signal
18	REGC	I	Capacity connection for regulator output stability
19	VDD		Power supply
20	ILMPW	O	Illumination power supply control output
21	SYSPW	O	System power control output
22	ADPW	O	A/D converter power supply control output
23	OELPW	O	OEL power supply control output
24	IPPW	O	Power supply control output for IP BUS interface IC
25	ASENBO	O	Slave power supply control output
26	EJTIN	I	Eject key input
27	NC		Not used
28	MUTE	O	System mute output
29	FM/AM	O	Tuner decoder power supply control output
30	LOCL	O	Local L output
31	LOCH	O	Local H output
32	TUNPCE2	O	EEPROM chip enable output
33	VST	O	Strobe pulse output for electronic volume
34	VCK/ROMCLK	O	Clock output for electronic volume / ROM collection clock output
35	VDI/ROMDATA	O	Data output for electronic volume / ROM collection data output
36	ROMCS	O	ROM collection chip select output
37	FLPILM	O	Flap illumination output
38	SD	I	Station detector input
39	ST	I	FM stereo input
40	VSS		GND
41	VDD		Power supply
42	ISENS	I	Illumination sense input
43	DRST	O	RDS reset output
44	RDSLK	I	RDS LK input
45	RDT	I	RDS data input
46	CURRQ	O	RDS tuner voltage FIX output
47	NL2DT	I	RDS noise level input 2
48	TMUTE	O	RDS tuner mute output
49	SDBW	I	SD input at NF
50	NC		Not used
51	MODEL1	I	Model select input 1
52	NC		Not used
53	TELSW	O	HANDS FREE power supply control output
54	TELIN	I	Cellular mute input
55	CD5VON	O	CD +5V power supply control output
56	CONT	O	CD servo driver power supply control
57	VDCONT	O	CD VD power control output
58	CDEJET	O	CD load motor eject control output

Pin No.	Pin Name	I/O	Function and Operation
59	CDLOAD	O	CD LOAD motor loading control output
60	LOCK	I	CD spindle lock detector input
61	FOK	I	CD focus OK signal input
62	PCL	O	Clock adjustment output
63	CLANP	I	CD disc clamp input
64	XSTB	O	CD LSI strobe output
65	XSCK	O	CD LSI clock output
66	XSI	I	CD LSI data input
67	XSO	O	CD LSI data output
68	XAO	O	CD LSI command / data control output
69	XRST	O	CD LSI reset control output
70	SMPXS0	O	Multiplexor select output 0
71	SMPXS1	O	Multiplexor select output 1
72	SMPXS2	O	Multiplexor select output 2
73	TEST(GND)	I	GND
74	SL	I	Signal level input
75	SAIN	I	Spectrum analyzer input
76	NL1	I	RDS noise level input 1
77	ASLIN	I	ASL input
78	EJTSNS	I	CD disc EJECT position detect
79	DSCSNS	I	CD disc insert sense input
80	VDSENS	I	VD voltage sense input
81	TENP	I	Temperature sense input (CD)
82	AVDD		A/D converter power supply terminal
83	AVREF		A/D converter reference voltage terminal
84	AVSS		GND
85	RX	I	IP BUS data input
86	TX	O	IP BUS data output
87	NMI		GND
88	LDET	I	PLL lock detection input
89	RCK	I	RDS clock input
90	RDS57K	I	RDS 57kHz pulse count input
91	PACK	I	CD TEXT pack synchronism input
92	ASENS	I	ACC power sense input
93	BSENS	I	Back up power sense input
94	TUNPDI	I	PLL IC data input
95	RXD	I	Grille data input
96	TXD	O	Grille data output
97	TUNPCK	O	PLL IC clock output
98	TUNPDO	O	PLL IC data output
99	TUNPCE	O	PLL IC chip enable output
100	PEE	O	Beep tone output

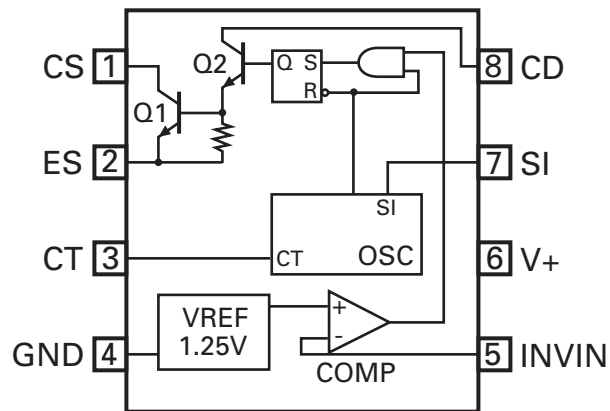
*PE5098A



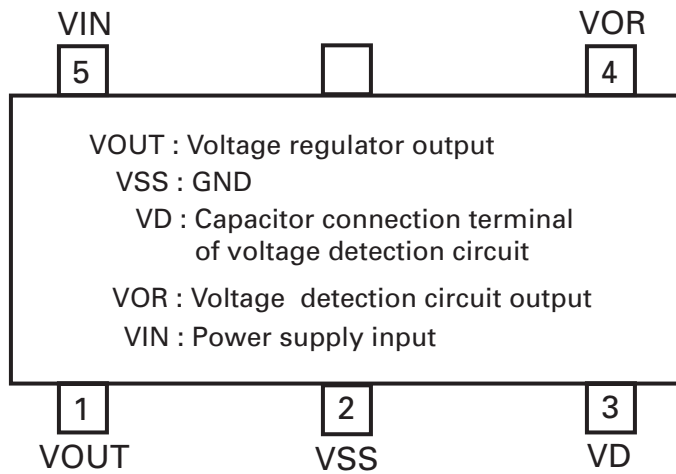
IC's marked by* are MOS type.

Be careful in handling them because they are very liable to be damaged by electrostatic induction.

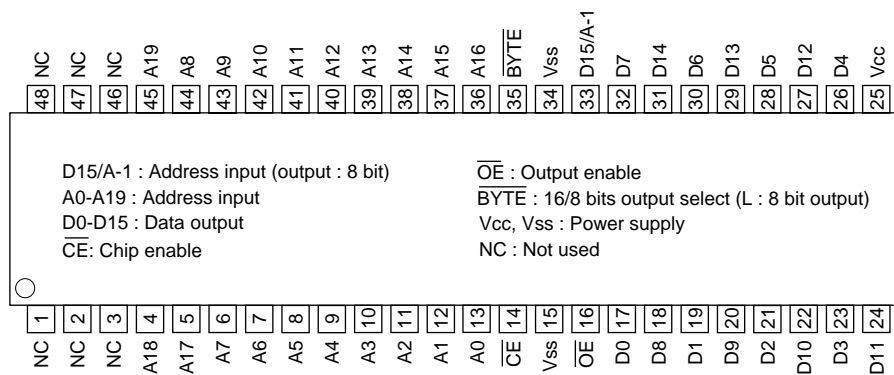
NJM2360M



S-875037BUPABE



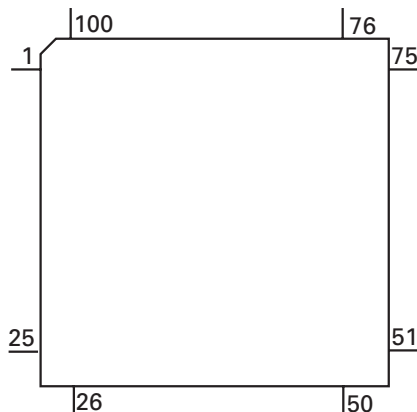
PD8063A



● Pin Functions (PD5554A)

Pin No.	Pin Name	I/O	Format	Function and Operation
1-4	NC			Not used
5	REM	I		Remote control reception
6	BYTE	I		VCC joint
7	CNVSS	I		GND
8,9	NC			Not used
10	RESET			Reset
11	XOUT	O		Crystal oscillating element connection pin
12	VSS			GND
13	XIN	I		Crystal oscillating element connection pin
14	VDD			Power voltage
15	NMI	I		Pull up
16	NC			Not used
17-20	KD1-4	I		Key data 1-4
21-26	KS1-6	I/O		Key strobe input/output 1-6
27-31	NC			Not used
32	ILMD	O	C	Dual illumination
33	KYDT	O	C	Key data output
34	DPDT	I		Display data input
35	NC			Not used
36	OEL	O	C	OEL controller ON
37	RDY	I		OEL controller READY
38	NC			Not used
39	HOLD	I		Pull up
40	NC			Not used
41	BCLK	O	C	Bus clock
42	RD	O	C	Read strobe
43	NC			Not used
44	WR	O	C	Write strobe
45	NC			Not used
46	CS2	O	C	Bank address (High)
47	CS1	O	C	Bank address (Low)
48	CS0	O	C	External ROM chip select
49-59	A19-9	O	C	Address bus 19-9
60	VDD			Power voltage
61	A8	O	C	Address bus 8
62	VSS			GND
63-70	A7-0	O	C	Address bus 7-0
71-86	D15-0	I/O		Data bus 15-0
87-93	NC			Not used
94	AVSS			Connect to VSS
95	NC			Not used
96	VREF			Connect to VSS
97	AVCC			Connect to VCC
98-100	NC			Not used

*PD5554A

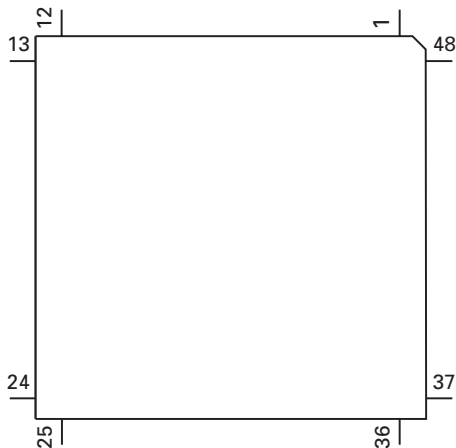


Format	Meaning
C	C MOS

● Pin Functions (PD5536A)

Pin No.	Pin Name	I/O	Format	Function and Operation
1	VSSO			GND
2	SFR	I		CPU SFR input
3-10	DB7-0	I/O		CPU data bus input / output 7-0
11	NPC	I		Non-precharge mode set input
12	VDDI			Power supply
13	VSSI			GND
14	SHUNT	I		Non-luminescence section anode shunt set input
15	TIO0	O	C	Frame period signal output
16	TIO1	O	C	Frame period inversion signal output
17	CKC	O	C	Cathode drive clock output
18	LS	O	C	Line sync signal output
19	CKA	O	C	Anode drive clock output
20	D2	O	C	Anode serial data output (Upper bit)
21	D1	O	C	Anode serial data output (Lower bit)
22	CKD	O	C	Anode serial transfer clock output
23	NC			Not used
24	VDDO			Power supply
25	VSSO			GND
26	NC			Not used
27-30	TEST0-3	I		Test mode input 0-3
31-35	TESTL0-4	I		Panel indication test mode brightness set input 0-4
36	VDDI			Power supply
37	VSSI			GND
38	BCLK	I		CPU bus clock signal input
39	CE1B	I		CPU chip enable input 1
40	CE2	I		CPU chip enable input 2
41	RDB	I		CPU read strobe input
42	WRB	I		CPU write strobe input
43	RSTB	I		Reset
44-47	CRST3-0	I		Cathode reset section set input 3-0
48	VDDO			Power supply

*PD5536A

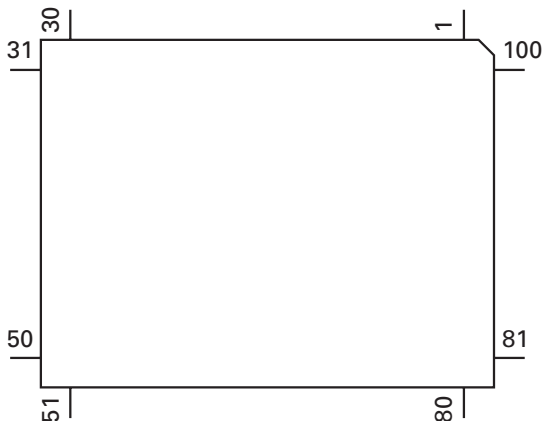


● Pin Functions (UPD63711GC)

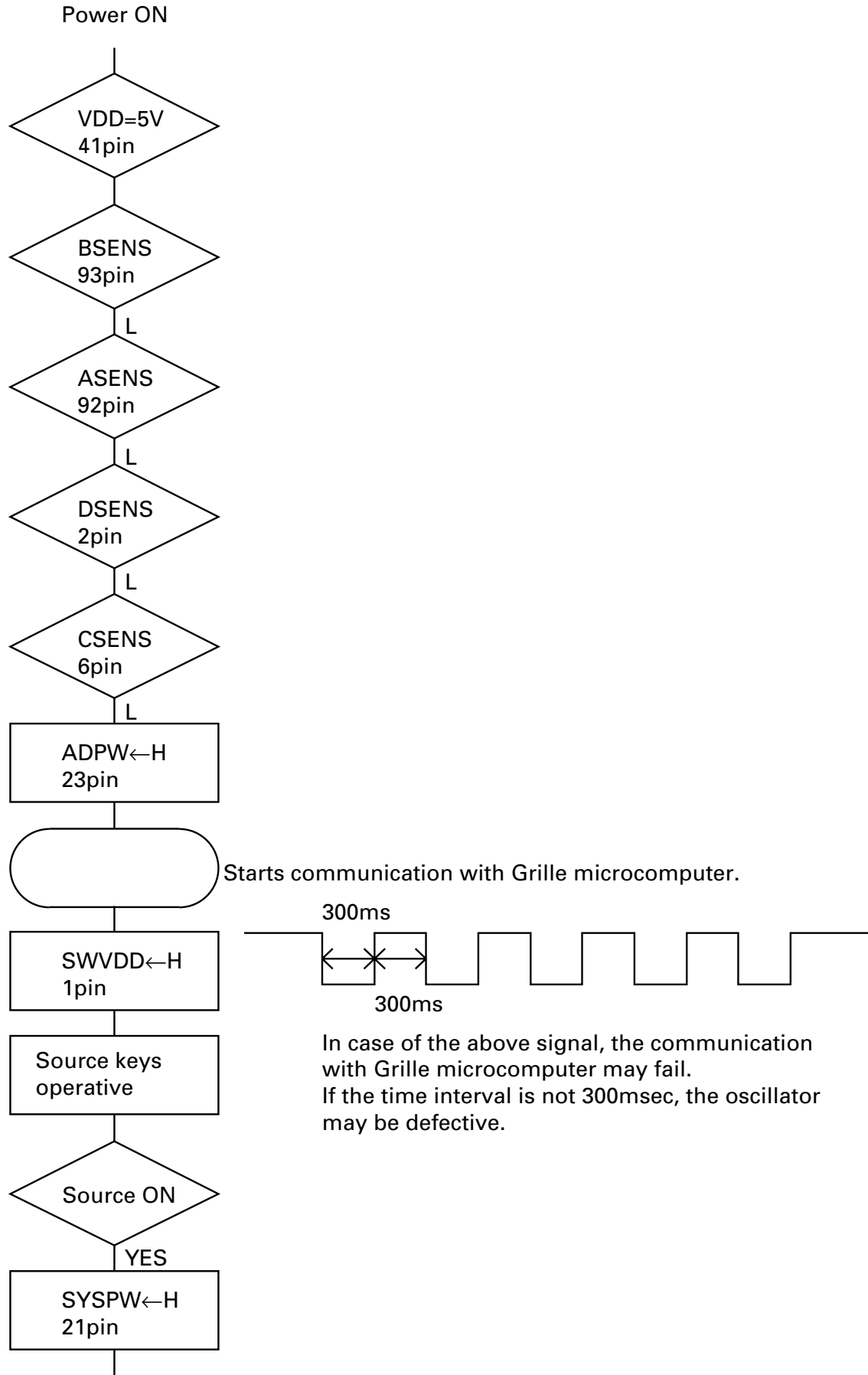
Pin No.	Pin Name	I/O	Function and Operation
1	D.GND		Logic circuit GND
2	RFOK	O	RFOK signal output
3	RST	I	Reset signal input
4	A0	I	Command/parameter identification signal input
5	STB	I	Data strobe signal input
6	SCK	I	Clock signal input for serial data input/output
7	SO	O	Serial data and status signal output
8	SI	I	Serial data input
9	XTALEN	I	Crystal oscillation control pin
10	D.VDD		Positive power supply terminal to logic circuit
11	DA.VDD		Positive power supply terminal to D/A converter
12	R_OUT	O	Right channel audio output signal
13	DA.GND		D/A converter GND
14	REGC	I	The outside putting capacitor connection pin for SCF regulator
15	DA.GND		D/A converter GND
16	L_OUT	O	Left channel audio output signal
17	DA.VDD		Positive power supply terminal to D/A converter
18	R+	O	Right channel audio data output
19	R-	O	Right channel audio data output
20	L-	O	Left channel audio data output
21	L+	O	Left channel audio data output
22	X.VDD		Positive power supply terminal to crystal oscillation circuit
23	XTAL	I	Crystal oscillator connect pin
24	XTAL	O	Crystal oscillator connect pin
25	X.GND		Crystal oscillation circuit GND
26	D.VDD		Positive power supply terminal to logic circuit
27	EMPH	O	Output pin for the pre-emphasis data in the sub-Q code
28	FLAG	O	Flag output pin to indicate that audio data currently being output consists of noncorrectable data
29	DIN	I	Serial data input to internal DAC
30	DOUT	O	Serial audio data output
31	SCKIN	I	Serial clock input to internal DAC
32	SCKO	O	Audio data that is output from DOUT changes at rising edge of this clock
33	LRCKIN	I	LRCK signal input to internal DAC
34	LRCK	O	Signals to distinguish the right and left channels of the audio data output from DOUT
35	HOLD	O	Defect detection output
36	TX	O	Digital audio interface data output
37	D.GND		Logic circuit GND
38	C16M	O	Oscillator clock buffering output
39	LIMIT	I	Status of the pin is output at Bit 5 of the status output
40	D.VDD		Positive power supply terminal to logic circuit
41	LOCK	O	EFM synchronous detection signal
42	RFCK	O	Frame synchronous signal of XTAL-system
43	MIRR	O	MIRR output
44	PLCK	O	Monitor pin of bit clock
45	D.GND		Logic circuit GND
46	C1D1	O	Output pin for indicating the C1 error correction results
47	C1D2	O	Output pin for indicating the C1 error correction results
48	C2D1	O	Output pin for indicating the C2 error correction results
49	C2D2	O	Output pin for indicating the C2 error correction results
50	C2D3	O	Output pin for indicating the C2 error correction results
51	D.VDD		Positive power supply terminal to logic circuit
52	PACK	O	CD-TEXT PACK synchronous signal
53	TSO	O	CD-TEXT data serial output
54	TSI	I	CD-TEXT control parameter serial input
55	TSCK	I	CD-TEXT serial clock input

Pin No.	Pin Name	I/O	Function and Operation
56	TSTB	I	CD-TEXT parameter strobe signal input
57	D.GND		Logic circuit GND
58	TEST0	I	Test pin
59	TEST1	I	Test pin
60	ATEST	O	Test pin
61	A.GND		Analog circuit GND
62	FD	O	Focus drive output
63	TD	O	Tracking drive output
64	SD	O	Sled drive output
65	MD	O	Spindle drive output
66	DAC0	O	DAC output for adjustment
67	DAC1	O	DAC output for adjustment
68	DAC2	O	DAC output for adjustment
69	DAC3	O	DAC output for adjustment
70	A.VDD		Positive power supply terminal to analog circuit
71	EFM	O	EFM signal output
72	ASY	I	EFM comparator reference voltage input
73	C3T		3T detection capacitor additional pin
74	RFI	I	RF signal input for EFM data regulation
75	AGCO	O	RF signal output of after gain adjustment
76	AGCI	I	RF-AGC amplifier input
77	RFO	O	RF summing amplifier output
78	EQ2		RF amplifier equalizer parts additional pin
79	EQ1		RF amplifier equalizer parts additional pin
80	RF-	I	RF summing amplifier inverted input
81	A.GND		Analog circuit GND
82	A	I	Photo detector A input
83	C	I	Photo detector C input
84	B	I	Photo detector B input
85	D	I	Photo detector D input
86	F	I	Photo detector F input
87	E	I	Photo detector E input
88	A.VDD		Positive power supply terminal to analog circuit
89	REFOUT	O	Reference electric potential output
90	FE-	I	Focus error amplifier inverted input
91	FEO	O	Focus error amplifier output
92	TE-	I	Tracking error amplifier inverted input
93	TEO	O	Tracking error amplifier output
94	TE2	O	Tracking error output of after amplification
95	TEC	I	Tracking comparator input
96	A.GND		Analog circuit GND
97	PD	I	PD detection signal input for LD output monitor
98	LD	O	LD control current output
99	PN	I	APC circuit control polarity set pin
100	A.VDD		Positive power supply terminal to analog circuit

*UPD63711GC



7.3 OPERATIONAL FLOW CHART

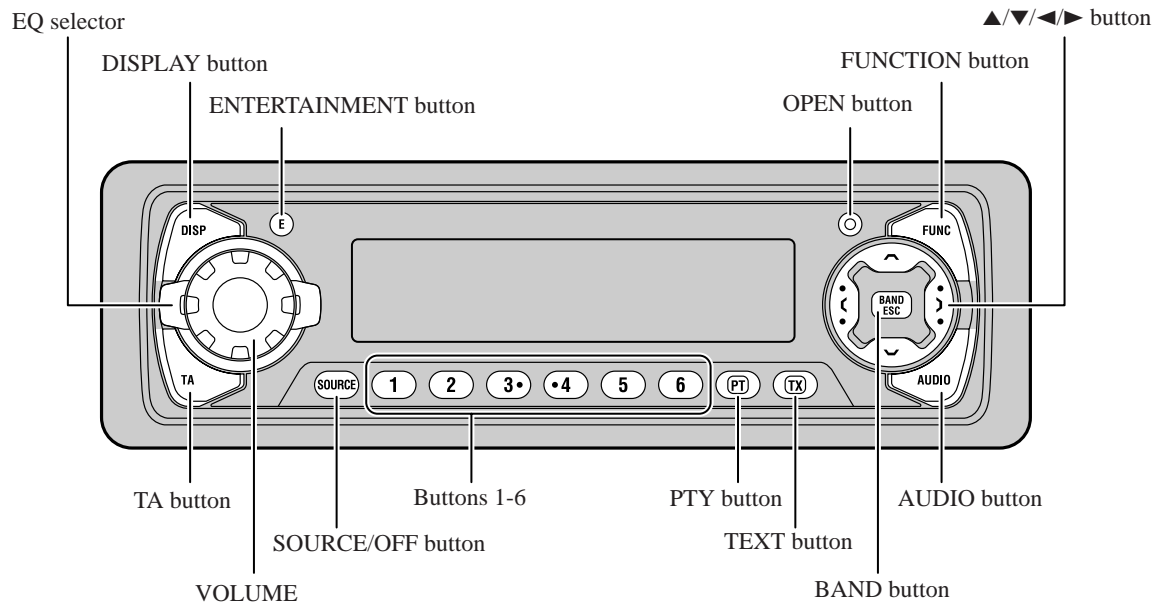


8. OPERATIONS AND SPECIFICATIONS

8.1 OPERATIONS

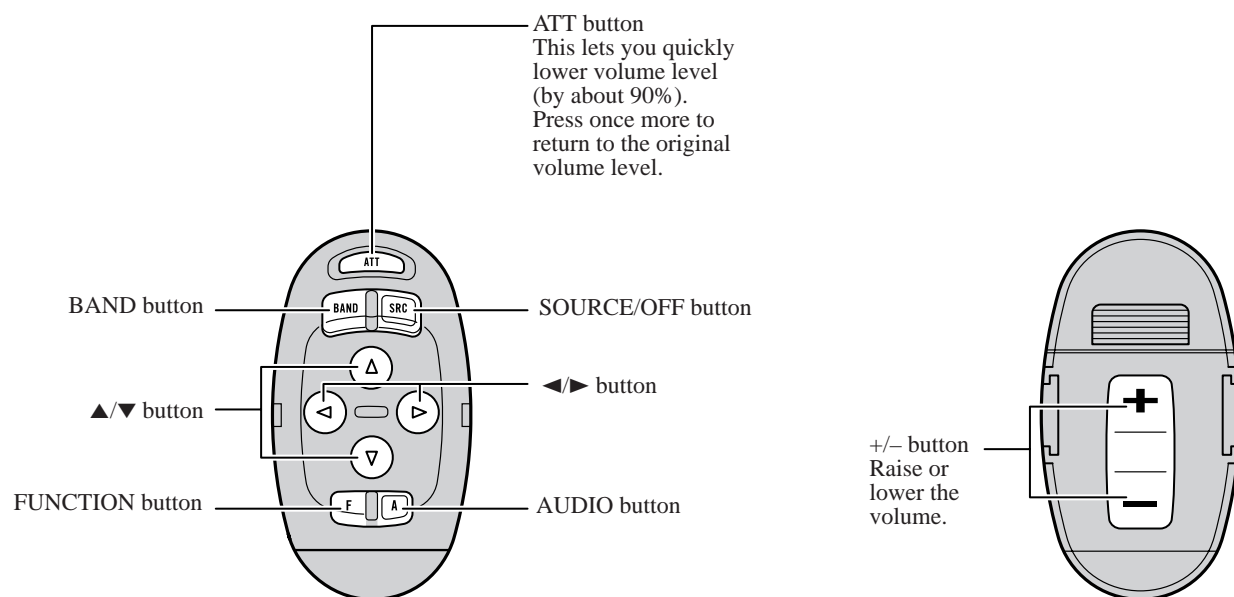
Key Finder

Head Unit



Steering Remote Controller

A steering remote controller that enables remote operation of the head unit is supplied.* Operation is the same as when using buttons on the head unit.



* A steering remote controller (CD-SR77) is an option for DEH-P6100R.

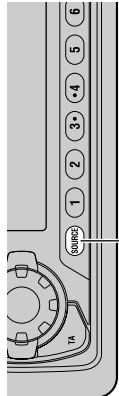
To Listen to Music

The following explains the initial operations required before you can listen to music.

Note:

- Loading a disc in this product.

1. Select the desired source. (e.g. Tuner)



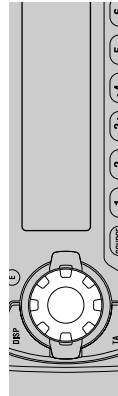
Each press changes the Source ...

Each press of the SOURCE/OFF button selects the desired source in the following order:
Built-in CD player → TV → Tuner → DAB (Digital Audio Broadcasting) Tuner → Multi-CD player → External Unit 1 → External Unit 2 → AUX → Telephone standby (for DEH-P7100R)

Note:

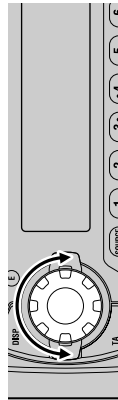
- External Unit refers to a Pioneer product (such as one available in the future) that, although incompatible as a source, enables control of basic functions by this product. Two External Units can be controlled by this product, although "External" is displayed whether you select External Unit 1 or External Unit 2. When two External Units are connected, the allocation of them to External Unit 1 or External Unit 2 is automatically set by this product.
- In the following cases, the sound source will not change:
 - * When a product corresponding to each source is not connected to this product.
 - * When no disc is set in this product.
 - * When no magazine is set in the Multi-CD player.
 - * When the AUX (external input) is set to OFF.
 - * When the Telephone standby is set to OFF.
- When this product's blue/white lead is connected to the car's Auto-antenna relay control terminal, the car's Auto-antenna extends when this product's source is switched ON. To retract the antenna, switch the source OFF.

2. Extend the VOLUME forward.



When you press the VOLUME, it extends forward so that it becomes easier to roll. To retract the VOLUME, press it again.

3. Raise or lower the volume.

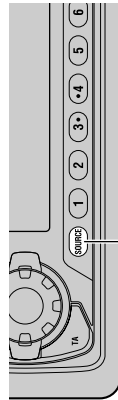


Rolling the VOLUME changes the volume level.

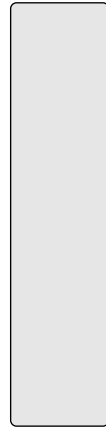
Note:

- Roll clockwise to raise the volume level.
- Roll counterclockwise to lower the volume level.

4. Turn the source OFF.



Hold for 1 second



Basic Operation

Basic Operation of Built-in CD Player

- Note:**
- Be sure to close the front panel after loading or ejecting a disc.

Switching the Display

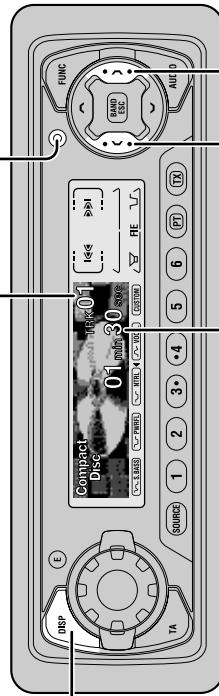
Each press of the DISPLAY button changes the display in the following order:
 Playback mode A (Play time) → Disc Title
 → Playback mode B (Play time)

- Note:**
- If you switch displays when disc titles have not been input, "NO TITLE" is displayed.
 - When playing a CD TEXT disc, refer to "Title Display Switching" and "Title Scroll".

Open

- Note:**
- Use to open the front panel when loading or ejecting a CD. (The illustration on the right shows the front panel open.)

Track Number Indicator



Play Time Indicator

Track Search and Fast Forward/Reverse

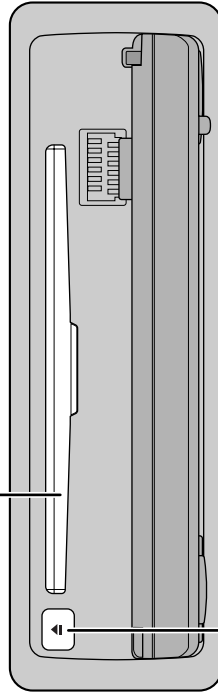
- You can select between Track Search or Fast Forward/Reverse by pressing the ◀/▶ button for a different length of time.

Track Search	0.5 seconds or less
Fast Forward/Reverse	Continue pressing

Disc Loading Slot

Note:

- The Built-in CD player plays one standard 12 cm or 8 cm (single) CD at a time. Do not use an adapter when playing 8 cm CD.



Precaution:

- To avoid a malfunction, make sure that no metal object comes into contact with the terminals when the front panel is open.

Eject

Note:

- The CD function can be turned ON/OFF with the disc remaining in this product.
- A disc left partially inserted after ejection may incur damage or fall out.

Note:

- If a disc cannot be inserted fully or playback fails, make sure the recorded side is down. Press the EJECT button and check the disc for damage before reinserting it.
- If the Built-in CD player cannot operate properly, an error message (such as "ERROR-14") appears on the display. Refer to "Built-in CD Player's Error Message".
- A CD TEXT disc is a CD featuring recorded text information such as Disc Title, Artist Name and Track Title.

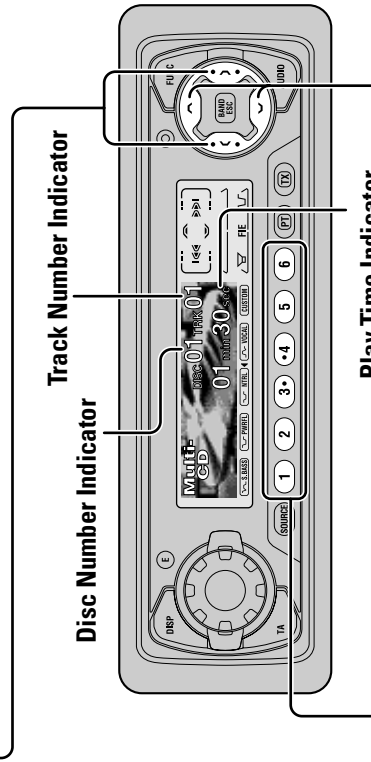
Basic Operation of Multi-CD Player

This product can control a Multi-CD player (sold separately).

Track Search and Fast Forward/Reverse

- You can select between Track Search or Fast Forward/Reverse by pressing the **◀/▶** button for a different length of time.

Track Search	0.5 seconds or less
Fast Forward/Reverse	Continue pressing



Disc Number Search (for 6-Disc, 12-Disc types)

- You can select discs directly with the 1 to 6 buttons. Just press the number corresponding to the disc you want to listen to.

Note:

- When a 12-Disc Multi-CD Player is connected and you want to select disc 7 to 12, press the 1 to 6 buttons for 2 seconds or longer.

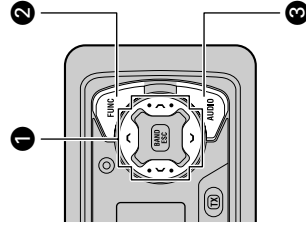
Note:

- The Multi-CD player may perform a preparatory operation, such as verifying the presence of a disc or reading disc information, when the power is turned ON or a new disc is selected for playback. "Ready" is displayed.
- If the Multi-CD player cannot operate properly, an error message such as "ERROR-14" is displayed. Refer to the Multi-CD player owner's manual.
- If there are no discs in the Multi-CD player magazine, "NO DISC" is displayed.

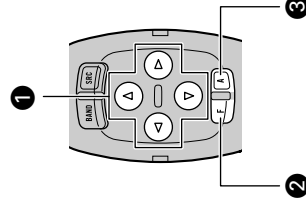
Corresponding Display Indications and Buttons

This product's display features Key Guidance Indicators. These light to indicate which of the **▲/▼/◀/▶**, **FUNCTION** and **AUDIO** buttons you can use. When you're in the Function Menu, Detailed Setting Menu, Initial Setting Menu or Audio Menu, they also make it easy to see which **▲/▼/◀/▶** buttons you can use to switch functions ON/OFF, switch repeat selections and perform other operations. Indicator and corresponding buttons are shown below.

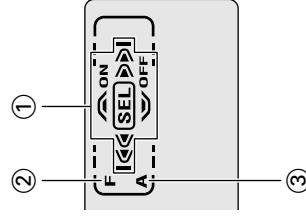
■ Head Unit



■ Steering Remote



■ Display Controller



When ① is lit in the display, perform appropriate operations with the ① buttons.

When ② is lit in the display, it indicates that you are in the Function Menu, Detailed Setting Menu or Initial Setting Menu. You can switch between each of these menus and between different modes in the menus using button ② on the head unit or steering remote controller.

When ③ is lit in the display, it indicates you are in the Audio Menu. You can switch between modes in the Audio Menu using button ③ on the head unit or steering remote controller.

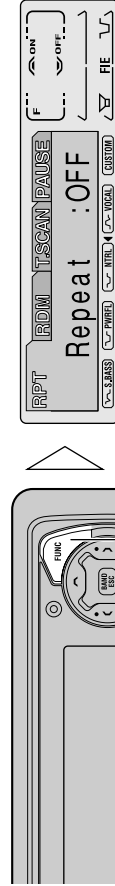
Entering the Function Menu

The Function Menu lets you operate simple functions for each source.

Note:

- After entering the Function Menu, if you do not perform an operation within about 30 seconds, the Function Menu is automatically canceled.

- Select the desired mode in the Function Menu. (Refer to next section, "Function Menu Functions".)



Each press changes the Mode ...

2. Operate a mode. (e.g. Repeat Play)



The button used and the operation it performs are indicated by the key guidance indicator. Press the button to switch the key guidance indicator ON, and the ▼ button to switch it OFF.

3. Cancel the Function Menu.



Basic Operation of Tuner

This product's AF function can be switched ON and OFF. AF should be switched OFF for normal tuning operations.

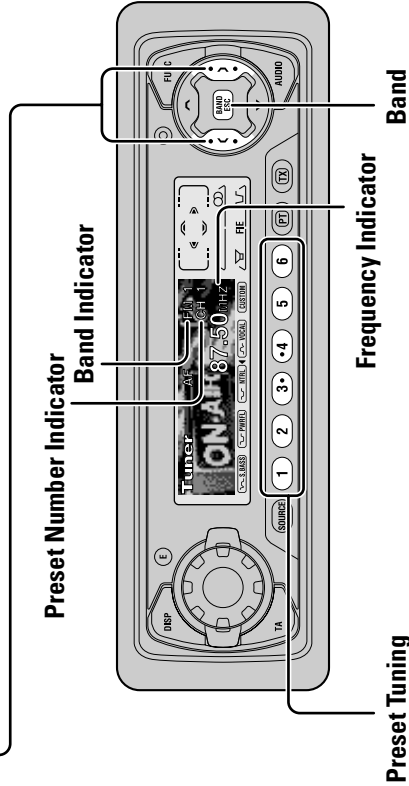
Manual and Seek Tuning

- You can select the tuning method by changing the length of time you press the ◀▶ button.

Manual Tuning (step by step)	0.5 seconds or less
Seek Tuning	0.5 seconds or more

Note:

- If you continue pressing the button for longer than 0.5 seconds, you can skip broadcasting stations. Seek Tuning starts as soon as you release the button.
- Stereo indicator "O" lights when a stereo station is selected.



- You can memorize broadcast stations in buttons 1 through 6 for easy, one-touch station recall.

Preset station recall	2 seconds or less
Broadcast station preset memory	2 seconds or more

Note:

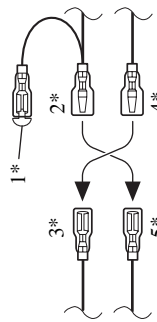
- Up to 18 FM stations (6 in FM 1, FM 2 and FM 3) and 6 MW/LW stations can be stored in memory.
- You can also use the ▲ or ▼ buttons to recall broadcast stations memorized in buttons 1 through 6.

FM 1 → FM 2 →
FM 3 → MW/LW

Connecting the Units

DEH-P7100R,P6100R

Note:
Depending on the kind of vehicle, the function of 3* and 5* may be different. In this case, be sure to connect 2* to 5* and 4* to 3*.



Connect leads of the same color to each other.

Cap (1*)
When not using this terminal, do not remove the cap.

Yellow (2*)
Back-up
(or accessory)

To terminal always supplied with power regardless of ignition switch position.

Red (4*)
Accessory
(or back-up)

To electric terminal controlled by ignition switch (12 V DC) ON/OFF.

Orange
To lightning switch terminal.

Black (ground)
To vehicle (metal) body.

Speaker leads
White : Front left ⊕
White/black : Front left ⊖
Gray : Front right ⊕
Gray/black : Front right ⊖
Green : Rear left ⊕ or Not used
Green/black : Rear left ⊖ or Not used
Violet : Rear right ⊕ or Subwoofer ⊕
Violet/black : Rear right ⊖ or Subwoofer ⊖

ISO connector
Note:
In some vehicles, the ISO connector may be divided into two. In this case, be sure to connect to both connectors.

Yellow/black

If you use a cellular telephone, connect it via the Audio Mute lead on the cellular telephone. If not, keep the Audio Mute lead free of any connections.

ASL unit

Refer to a Handsfree Telephone unit's manual (sold separately).

Connecting cords with RCA pin plugs (sold separately)

Front output Blue/white

To system control terminal of the power amp (max. 300 mA 12 V DC).

Blue/white (6*) To auto-antenna relay control terminal (max. 300 mA 12 V DC).

System remote control

The pin position of the ISO connector will differ depends on the type of vehicle. Connect 6* and 7* when Pin 5 is an antenna control type. In another type of vehicle, never connect 6* and 7*.

Front speaker

Left

Subwoofer

Front speaker

Right

Subwoofer

Use this for connections when you have the separately available amplifier.

Note:
When a subwoofer is connected to this unit instead of a rear right speaker, do not connect the rear left speaker lead to anything. For details, refer to the Initial Setting Menu in the Operation Manual.

8.2 SPECIFICATIONS

General

Power source	14.4 V DC (10.8 – 15.1 V allowable)
Grounding system	Negative type
Max. current consumption	10.0 A
Dimensions	
(mounting size)	178 (W) × 50 (H) × 157 (D) mm
(front face)	188 (W) × 58 (H) × 19 (D) mm
Weight	1.6 kg

Amplifier

Maximum power output	45 W × 4
45 W × 2 ch/4 Ω + 70 W × 1 ch/2 Ω (for Subwoofer)	
Continuous power output	27 W × 4
(DIN45324, +B = 14.4 V)	
Load impedance	
.....	4 Ω (4 – 8 Ω [2 Ω for 1 ch] allowable)
Preout maximum output level/output impedance	
.....	4.0 V/100 Ω (DEH-P7100R)
Preout maximum output level/output impedance	
.....	2.2 V/1 kΩ (DEH-P6100R)
Equalizer (3-Band Parametric Equalizer)	
(Low)	Frequency: 40/80/100/160 Hz
Q Factor: 0.35/0.59/0.95/1.15	
(+6 dB when boosted)	
Level: ±12 dB	
(Mid)	Frequency: 200/500/1k/2k Hz
Q Factor: 0.35/0.59/0.95/1.15	
(+6 dB when boosted)	
Level: ±12 dB	
(High)	Frequency: 3.15k/8k/10k/12.5k Hz
Q Factor: 0.35/0.59/0.95/1.15	
(+6 dB when boosted)	
Level: ±12 dB	
Loudness contour	
(Low)	+3.5 dB (100 Hz), +3 dB (10 kHz)
(Mid)	+10 dB (100 Hz), +6.5 dB (10 kHz)
(High)	+11 dB (100 Hz), +11 dB (10 kHz)
(volume: –30 dB)	
HPF	
Frequency	50/80/125 Hz
Slope	–12 dB/oct.
Subwoofer output	
Frequency	50/80/125 Hz
Slope	–18 dB/oct.
Level	±12 dB

CD player

System	Compact disc audio system
Usable discs	Compact disc
Signal format	Sampling frequency: 44.1 kHz
Number of quantization bits: 16; linear	
Frequency characteristics	5 – 20,000 Hz (±1 dB)
Signal-to-noise ratio	94 dB (1 kHz) (IEC-A network)
Dynamic range	92 dB (1 kHz)
Number of channels	2 (stereo)

FM tuner

Frequency range	87.5 – 108 MHz
Usable sensitivity	11 dBf
(1.0 μV/75 Ω, mono, S/N: 30 dB)	
50 dB quieting sensitivity	16 dBf
(1.7 μV/75 Ω, mono)	
Signal-to-noise ratio	70 dB (IEC-A network)
Distortion	0.3% (at 65 dBf, 1 kHz, stereo)
Frequency response	30 – 15,000 Hz (±3 dB)
Stereo separation	40 dB (at 65 dBf, 1 kHz)

MW tuner

Frequency range	531 – 1,602 kHz (9 kHz)
Usable sensitivity	18 μV (S/N: 20 dB)
Selectivity	50 dB (±9 kHz)

LW tuner

Frequency range	153 – 281 kHz
Usable sensitivity	30 μV (S/N: 20 dB)
Selectivity	50 dB (±9 kHz)

Note:

- Specifications and the design are subject to possible modification without notice due to improvements.